

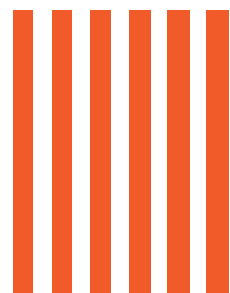
# PHARMALINK

MARCH 2018

Maternal Child Health and Faithbased Health Facilities: What are the issues to address?



Picture courtesy of Kristy Carlson



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## ACRONYMS AND ABBREVIATIONS

<b>CHAG</b>	Christian Health Association of Ghana
<b>CHCUs</b>	Church Health Coordinating Units
<b>CHNs</b>	Community Health Nurses
<b>DPs</b>	Development Partners
<b>EML</b>	Essential Medicines List
<b>EmONC</b>	Emergency Obstetrics and Neonatal Care
<b>ENBC</b>	Essential New Born Care
<b>FP</b>	Family Planning
<b>LSS</b>	Life Saving Skills
<b>MAF</b>	MDG Accelerated Framework
<b>MDG</b>	Millennium Development Goals
<b>MMR</b>	Maternal Mortality Rate
<b>MOH</b>	Ministry of Health
<b>NCHS</b>	National Catholic Health Services
<b>STD</b>	Sexually Transmitted Disease
<b>ToTs</b>	Trainer of Trainers
<b>WHO</b>	World Health Organization

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## EDITORIAL

Everyday, approximately, 830 women die from preventable causes related to pregnancy and childbirth. Unfortunately, 99% of these deaths occur in developing countries that are characterized by weak health systems. Maternal mortality has been found to be higher in women living in rural areas and among poorer communities than their urban and affluent counterparts. The major complications that account for nearly 75% of all maternal deaths are severe bleeding (mostly after childbirth); infections (usually after childbirth); high blood pressure during pregnancy (pre-eclampsia and eclampsia); complications from delivery and unsafe abortion. The remainder are caused by or associated with diseases such as malaria, and AIDS during pregnancy. To improve maternal health, barriers that limit access to quality maternal health services must be identified and addressed at all levels of the health system. Improving maternal health is one of the World Health Organization's (WHO) key priorities. WHO works to contribute to the reduction of maternal mortality by increasing research evidence, providing evidence-based clinical and programmatic guidance, setting global standards, and providing technical support to member states.

In 2016, 5.6 million children under the age of 5 years died. This translated into 15,000 under-five deaths per day. Globally, the leading causes of death in children less than 5 years are preterm birth complications, pneumonia, birth asphyxia, diarrhoea and malaria. A child's risk of dying is highest in the first 28 days of life (the neonatal period). Improving the quality of antenatal care, care at the time of childbirth, and postnatal care for mothers and their newborns are all essential to prevent these deaths. Preterm birth, intrapartum-related complications (birth asphyxia or lack of breathing at birth), and infections cause most neonatal deaths. From the end of the neonatal period and through the first 5 years of life, the main causes of death are pneumonia, diarrhoea and malaria. Malnutrition is the underlying contributing factor, making children more vulnerable to severe diseases.

In this edition of Pharmalink, we focus on maternal and child health in faith-based health systems. Recognizing the health impact of timing and spacing pregnancies is discussed. While faith-based organizations in Africa provide a significant proportion of health services, family planning service delivery is noted to be limited. The effectiveness of implementing a systems approach in strengthening the capacity of Christian Health Associations to provide family planning and increase uptake in their communities is discussed in detail.

The success of a campaign program to attain 100 days free of maternal mortality in faith-based hospitals in Ghana is discussed. The program involved capacity building of various categories of health workers in priority areas for emergency, obstetric and neonatal care. It also involved the development of innovative approaches to solving maternal death problems with social media and technology for health.

Male partners' perspectives of involvement in maternal healthcare services; a rapid assessment of human papillomavirus vaccination among adolescent girls in Zambia and the inclusion of key medicines for children in national essential medicines lists and standard treatment guidelines in Central Africa is highlighted.



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# FAMILY PLANNING



## CLOSING THE GAP: THE POTENTIAL OF CHRISTIAN HEALTH ASSOCIATIONS IN EXPANDING ACCESS TO FAMILY PLANNING

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### ABSTRACT

Recognizing the health impact of timing and spacing pregnancies, the Sustainable Development Goals call for increased access to family planning globally. While faith-based organizations in Africa provide a significant proportion of health services, family planning service delivery has been limited. This evaluation seeks to assess the effectiveness of implementing a systems approach in strengthening the capacity of Christian Health Associations to provide family planning and increase uptake in their communities.

From January 2014 to September 2015, the capacity of three Christian Health Associations in East Africa—Caritas Rwanda, Uganda Catholic Medical Bureau, and Uganda Protestant Medical Bureau—was strengthened with the aims of improving access to women with unmet need and harmonizing faith-based service delivery contributions with their national family planning programs. The key components of this systems approach to family planning included training, supervision, commodity availability, family planning promotion, data collection, and creating a supportive environment. Community-based provision of family planning, including fertility awareness methods, was introduced across intervention sites for the first time. Five hundred forty-seven facility- and community-based providers were trained in family planning, and 393,964 people were reached with family planning information. Uptake of family planning grew substantially in Year 1 (12,691) and Year 2 (19,485) across all Christian Health Associations as compared to the baseline year (3,551). Cumulatively, 32,176 clients took up a method during the intervention, and 43 percent of clients received this service at the community level. According to a provider competency checklist, facility- and community-based providers were able to adequately counsel clients on new fertility awareness methods. Integration of Christian Health Associations into the national family planning strategy improved through participation in routine technical working group meetings, and the Ministries of Health in Rwanda and Uganda recognized them as credible family planning partners. Findings suggest that by strengthening capacity using a systems approach, Christian Health Associations can meaningfully contribute to national and international family planning goals. Increased attention to community-based family planning provision and to mainstreaming family planning service delivery across Christian Health Associations is recommended.

### INTRODUCTION

Preventing unintended pregnancies could save the lives of more than 2 million infants and children annually worldwide, and could significantly reduce maternal mortality and morbidity.<sup>1</sup> This positive impact on health outcomes, among other benefits, is why increased access to family planning information and education is one of the Sustainable Development Goals set by the international community.<sup>2</sup>

Modern family planning use among women with unmet need is lowest in sub-Saharan Africa.<sup>3</sup> Meeting this need remains a challenge. While faith-based organizations represent 20–50 percent of the national health sector across a number of African countries,<sup>4</sup> their contribution to family planning service delivery is significantly less than other health services offered by these facilities.<sup>5, 6</sup>

Even in light of the life-saving evidence supporting healthy timing and spacing of pregnancies, faith-based organizations have found including family planning in their programming to be challenging due to a lack of capacity or the belief that specific family planning methods are at odds with their religious tenets.<sup>7, 8</sup> Even in the midst of partnerships between faith-based and non-religious development organizations, there is a concern that religious ideologies may overtake empirical evidence in delivering information and services or, on the other hand, that core religious values may be compromised along the way.<sup>9</sup>

With their broad networks and sustained presence, faith-based organizations have the potential to increase the demand for and use of health services, and significantly contribute to achieving the Sustainable Development Goals.<sup>10</sup> Faith is an important determinant of value systems at both the individual and community levels.<sup>11</sup> Nearly nine in ten Africans identify themselves as Christian or Muslim, and 69–98 percent describe religion as “very important” in their lives.<sup>12</sup> Often the largest non-governmental healthcare providers in African countries are faith-based organizations. In many countries, Christian Health Associations (CHAs) coordinate with faith-based health facilities (Table 1).<sup>13</sup> CHAs often work closely with ministries of health through established memoranda of understanding to complement public sector service delivery. Their engagement in family planning, however, is limited, especially among Catholic health networks.

The structures are in place for CHAs to contribute to national reproductive health strategies, but lack of capacity along with unavailability of appropriate family planning methods have kept them from broader participation.<sup>7</sup>

Given the vital role of CHAs in healthcare delivery, there has been an increase in engagement with international aid agencies prompting an exploration of the ways that religion may promote family planning. Based on the interest among CHAs to offer family planning services, this intervention seeks to strengthen their programs using a systems approach and better aligns their service delivery with national strategies in Rwanda and Uganda.

**Table 1. Christian Health Associations in Rwanda & Uganda**

Rwanda: Caritas Rwanda is a network of Catholic hospitals and clinics that operates around 30 percent of health facilities nationally and has an established memorandum of understanding with the Ministry of Health. Some staff within Caritas Rwanda facilities are seconded from the Ministry of Health, and data (including family planning) is expected to be reported through the national health management information system (HMIS) in the same way as public facilities.

Uganda: The private-not-for-profit health sector is primarily made up of four faith-based organizations - Uganda Catholic Medical Bureau, Uganda Protestant Medical Bureau, Uganda Muslim Medical Bureau, and Uganda Orthodox Medical Bureau. Together they account for 35 percent of health services and training institutions in the country. They each have established memoranda of understanding with the Ugandan government, and they often collaborate as a unified consortium. Some staff within these private-not-for-profit facilities are seconded from the Ministry of Health, and data (including family planning) is expected to be reported through the national HMIS in the same way as public facilities.

## INTERVENTION DESCRIPTION

From January 2014 to September 2015, a systems approach was used to strengthen the family planning capacity of three CHAs in Rwanda and Uganda: Caritas Rwanda, Uganda Catholic Medical Bureau (UCMB), and Uganda Protestant Medical Bureau (UPMB). This systems approach targeted the fundamental building blocks of family planning programs: training, supervision, commodity availability, family planning promotion, data collection, and creating a supportive environment (Figure 1). The approach was tailored to the local context of each CHA to ensure acceptability within their religious tradition. For example, Caritas Rwanda and UCMB are Catholic organizations and offered only natural methods of family planning. Fertility awareness methods (FAMs)—Standard Days Method® (SDM) used

with the visual aid CycleBeads®, TwoDay Method®, and Lactational Amenorrhea Method (LAM)—were introduced at the facility and community levels, which allowed these CHAs to provide a range of modern and effective options that were consistent with their faith (Table 2). For UPMB, capacity was strengthened across all modern methods in addition to expanding the method mix with new fertility awareness methods.

**Figure 1. A systems approach to family planning programs**



**Table 2. Fertility awareness methods of family planning**

Fertility awareness methods are natural methods of family planning that are classified as modern methods by the World Health Organization, FP2020, USAID, and other international organizations. The fertility awareness methods included in this intervention were: Standard Days Method® (SDM) identifies a fixed set of days in each menstrual cycle when a woman can get pregnant if she has unprotected intercourse. If the woman does not want to get pregnant, she and her partner avoid unprotected intercourse on days 8 through 19 of her cycle. A woman can use CycleBeads®, a color-coded string of beads, to help track the days of her menstrual cycle and see which days she is most likely to get pregnant. SDM is 95 percent effective with correct use and 88 percent effective with typical use.<sup>14</sup>

TwoDay Method® is a fertility awareness method of family planning that uses cervical secretions to indicate fertility. A woman who uses the TwoDay Method® checks for cervical secretions at least twice a day. If she notices secretions of any type, color, or consistency either “today” or “yesterday,” she considers herself fertile. TwoDay Method® is 96 percent effective with correct use and 86 percent effective with typical use.<sup>15</sup> Lactational Amenorrhea Method (LAM) is a short-term family planning method based on the natural effect of breastfeeding on fertility. The act of breastfeeding, particularly exclusive breastfeeding, suppresses the release of hormones that are necessary for ovulation. If the following conditions are met, the method provides protection from pregnancy:

F1.the mother's monthly bleeding has not returned since her baby was born, AND  
 2.the baby is only/exclusively breastfed (day and night), AND  
 3.the baby is less than 6 months old.

LAM is 99 percent effective with correct use and 98 percent effective with typical use.<sup>16</sup>

Each of the system components was addressed in the following manner:

### Training providers

Facility- and community-based providers were trained to offer family planning in 51 sites, and an additional 31 UCMB sites (primarily health posts) received training for facility-based providers only. Community-based family planning was new across all intervention sites, and the profile of these community health workers (CHW) included community volunteers, Village Health Teams, catechists, and expert couples. The training curriculum was designed using guidance documents such as the WHO Medical Eligibility Criteria and the national family planning curricula. Caritas Rwanda and UCMB equipped their providers to offer fertility awareness methods that were consistent with Catholic teaching, and directed clients to a nearby facility or secondary post (Rwanda) if they wished to use a method not offered by the site. UPMB providers received a contraceptive technology update on all methods available in Uganda in addition to the new fertility awareness methods. CHWs from UPMB were trained to offer pills, condoms, and fertility awareness methods as well as referrals to the facility for other family planning options.

### Supervision system

Family planning was integrated into the supervision systems at intervention sites. Focal persons were identified and trained to conduct supportive supervision with facility- and community-based providers. Through monthly meetings with CHWs, supervisors helped address challenges, ensured routine reporting of data, and coordinated resupply of commodities. Supervision was also conducted by central level managers to assess progress on each component of the systems approach.

### Promoting family planning

The availability of new methods and new community-based services provided the opportunity to revitalize family planning outreach in the facility and the community. The CHAs produced radio spots and promotional materials to raise awareness of family planning. At the facilities, information was given in waiting rooms of various wards, particularly while women waited for pre-, ante-, and post-natal services. CHWs raised awareness by conducting health information sessions in their villages with women's groups, churches, crowds during market days, etc. Additionally, UPMB equipped religious leaders from a variety of faith perspectives (Protestant, Catholic, and Muslim) with knowledge about the benefits of family planning, and the importance of healthy timing and spacing

of pregnancies. Emphasis was placed on dispelling myths, sharing information about service availability, and creating linkages with the new cadre of CHWs in their area.

### Commodity availability

CHAs supported intervention sites to improve their forecasting, procurement, and management of family planning commodities during supervision visits. In Uganda, fertility awareness methods were not offered in most health facilities, and CycleBeads® were not procured nationally. Therefore, UPMB and UCMB managed a separate supply chain to ensure stock of CycleBeads® at intervention sites.

### Collecting data

Since family planning at the community level was a new service for these CHAs, a reporting structure was developed to facilitate the flow of data from the field. Although facilities were recording family planning service statistics, the reports were not being transferred to the Ministry of Health through the health management information system (HMIS). Data managers and providers were then supported through supervision to ensure that family planning service delivery data from CHAs reached the district level.

### Creating a supportive environment

To be seen as credible partners in family planning, it was essential for CHAs to participate in their national strategy dialogue. Under the intervention, CHAs briefed and regularly updated policymakers, program managers, and influential family planning practitioners about their activities as new experiences and findings emerged. They advocated with stakeholders for inclusion of their activities, including FAM, into national norms and program guidelines, the national HMIS, and commodity procurement mechanisms.

## PROGRAM EVALUATION METHODS

This evaluation sought to assess the effectiveness of implementing a systems approach in strengthening the capacity of CHA sites to provide family planning at the facility and community level and, ultimately, increase uptake of family planning. The intervention was evaluated using program data from family planning service statistics, program reports, competency checklists with providers (Knowledge Improvement Tool - KIT), and qualitative interviews with providers.

Service statistics: Routine service statistics documenting family planning uptake were collected on a monthly basis from intervention sites. Baseline service statistics from 2013 (year preceding intervention activities) were compared with services statistics from 2014 (Year 1) and 2015 (Year 2) to assess the impact of the intervention on overall uptake by method and type of provider.



Program reports: The majority of monitoring and evaluation data was collected via routine program reports including awareness-raising activity reports, meeting reports, supervision reports, and quarterly reports.

**Knowledge Improvement Tool (KIT):** The KIT assesses provider competency in screening for and offering family planning methods. The KIT was implemented periodically, beginning at least three months after initial provider training. Supervisors administered the KIT to a convenience sample of 172 providers through a counseling role-play and scored providers on the key messages included during counseling. Scores were calculated by percent of key counseling aspects covered correctly, and aggregated to show trends across providers from different sites and levels.

**Provider interviews:** In-depth interviews and focus group discussions were conducted with focal persons and providers at the facility and community level. Interview discussion guides included questions on experiences offering family planning, and perceptions of acceptability and feasibility of the intervention. In total, 88 providers were interviewed: 18 facility-based providers and 70 CHWs.

The interviews were conducted in the local language spoken by providers, and they were recorded, transcribed, and translated into English for analysis.

## FINDINGS

### Programmatic capacity building

The following results demonstrate the change in programmatic capacity according to the systems approach.

#### Provider training and supervision:

One hundred sixty-one facility providers and 386 CHWs were trained to offer family planning (Table 3). Providers were generally satisfied with the family planning training they received and expressed confidence in their knowledge and skills, particularly related to fertility awareness methods. Several went on to become users of the methods themselves.

The training was good and it has helped very many clients learn that family planning exists, and it is very effective if used in an effective way. (Facility-based provider, UCMB)

*After the training, I was equipped and able to discern who should use the methods through the use of the screening guides, and, above all, I would not turn away clients who asked for other methods that I couldn't provide. [I sent them] to get both injectable and implants of their choice. (CHW, UPMB)*

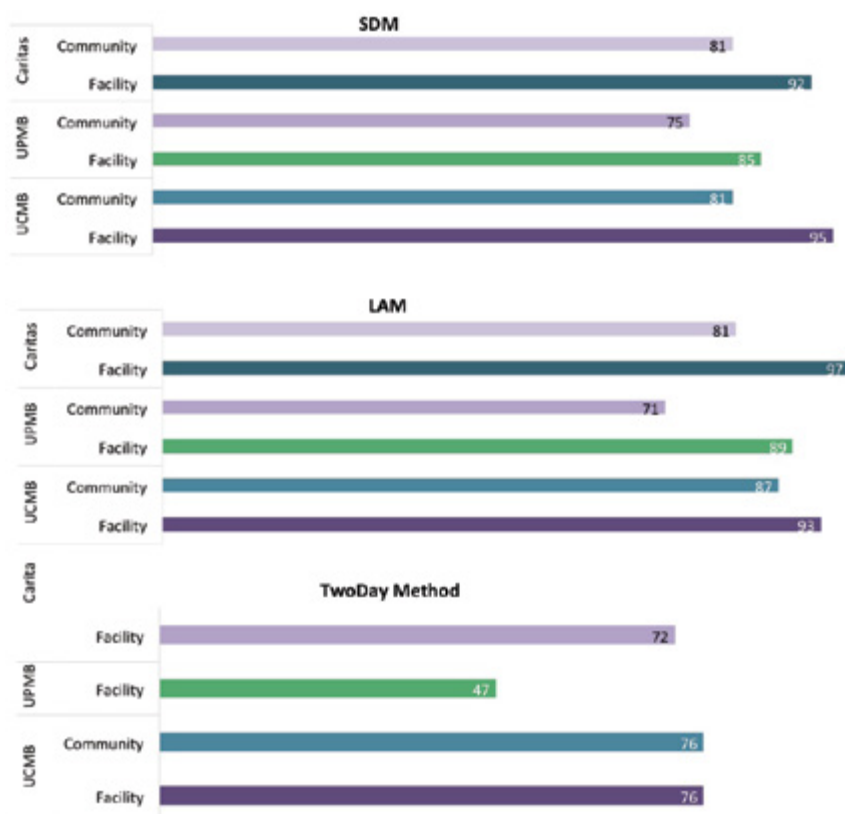
**Table 3. Number of providers trained in family planning by level and CHA**

	Facility-based	Community-based	Total
Caritas Rwanda Sites=40	40	200	240
UPMB Sites=8	31	84	115
UCMB Sites=34	90	102	192
<b>Total</b>	<b>161</b>	<b>386</b>	<b>547</b>

*I am now very experienced. If I meet anyone in the village and they ask me about family planning, I can easily respond and give clear information. Secondly, I am respected and besides, I have become a very good example of a satisfied user of a natural family planning method. I have used it to space my children very well. (CHW, UPMB)*

Of the original 547 providers who were trained, the counseling capacity of 172 providers offering fertility awareness methods was measured using the KIT. Figure 2 shows the average provider scores for each method, site, and provider level. Facility providers generally scored higher than CHWs across all methods and sites. Scores for SDM and LAM were consistently higher than scores for the TwoDay Method®. Providers from UCMB and Caritas Rwanda (Catholic organizations that offered only natural methods) had higher scores than providers from UPMB (which offered the full range of methods).

**Figure 2. Percent of key counseling messages correctly administered using KIT for provider competency by method for facility and community-based providers**



### Promoting family planning

From July 2014 – September 2015, providers from all intervention sites and 83 religious leaders trained by UPMB were able to conduct a total of 24,335 awareness-raising events and reach an estimated 393,964 community members with information about family planning

**Table 4. Number of awareness-raising events and people reached with family planning information**

	Events	People Reached
Caritas Rwanda	15,747	237,446
UPMB	7,209	98,054
UCMB	1,379	58,464
Total	24,335	393,964

Data collection: In many sites, challenges were identified with reporting data. Family planning service statistics were collected in provider registers but were not often transferred into monthly HMIS reports sent to the Ministry of Health.

Furthermore, HMIS reports in Rwanda and Uganda did not allow disaggregation of certain methods, including SDM, TwoDay Method®, and LAM. Through targeted supervision, facilities began regularly sending family planning reports to the district allowing for the contribution of CHAs to be included in national level results. In particular, Catholic health facilities were now able to include family planning service data in monthly reports to the government where they previously reported nothing. However, reporting was a challenge experienced by all intervention sites. Focal persons struggled to integrate CHW services into the facility register on a regular basis, and monthly HMIS reports to the government required improvement.

*Previously, they were not reporting anything on the natural family planning services to the government, but now it is being included in the data to the government. (Facility-based provider, UCMB)*

*I agree that we did not document properly. We would provide family planning, fill the monthly reporting form and the other gathering information tool, but we would not fill in the registers. So, a follow-up team from UPMB came and showed us how we were to do it. They helped us, and again another group came at the beginning of this year with the community reports. The community reports were not being attached to HMIS forms, so we corrected that. The community VHT reports, we now sum it up and send to HMIS. (Facility-provider, UPMB)*

Partners have advocated with the Ministry of Health in Uganda to improve accuracy of the HMIS form, ensuring that the full range of methods are included. The ministry recognized this need and will consider incorporating them during the next round of HMIS form revisions.

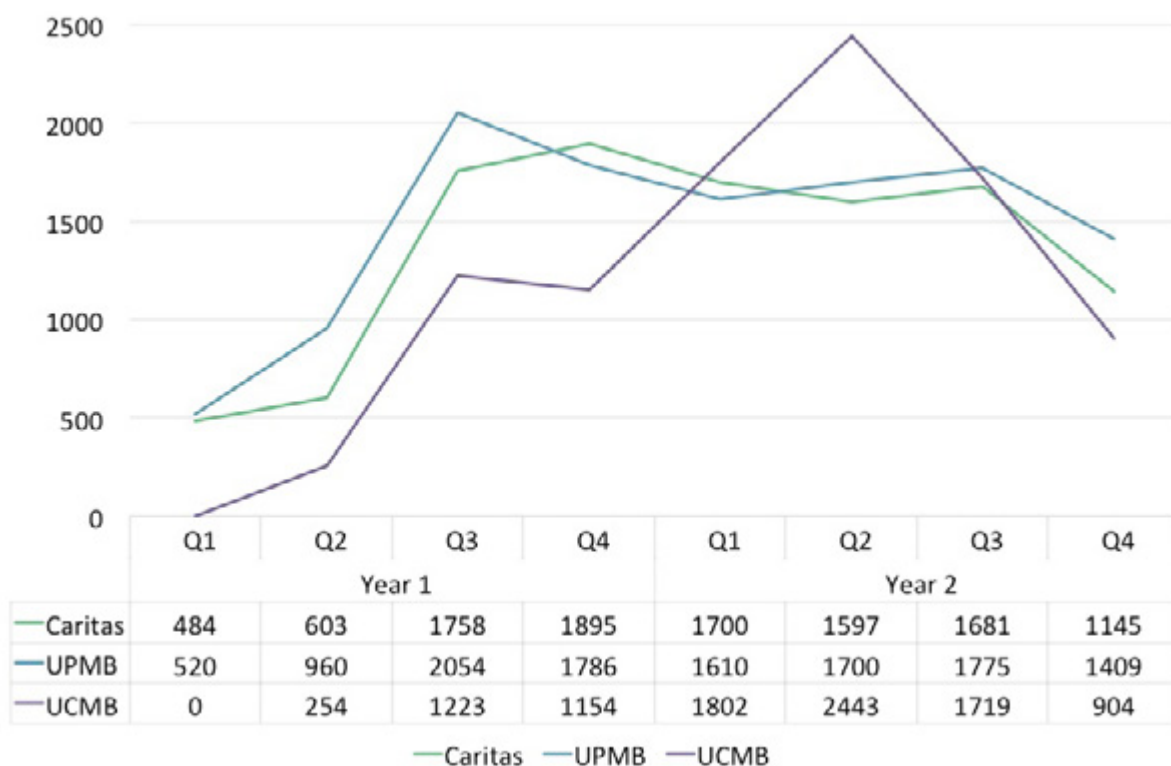
**Commodity Availability:** One of the biggest challenges for program sustainability in Uganda was the difficulty of obtaining CycleBeads®, which could not be procured alongside other family planning commodities. Using a donation of CycleBeads® from the Institute for Reproductive Health, UCMB and UPMB self-managed facility stock levels using a parallel supply chain, which created an additional burden for the management teams. Through advocacy with the Ministry of Health, CycleBeads® have been integrated into the Costed Implementation Plan in Uganda, though procurement has not yet moved forward.

**Creating a Supportive Environment:** To further collaborate with the Ministry of Health, Caritas Rwanda and UCMB joined the Family Planning Technical Working Groups in Rwanda

and Uganda for the first time, and UPMB strengthened its existing involvement with them. These are committees hosted by the Ministry of Health to coordinate all family planning efforts nationally. As a result, they were recognized as partners supporting national family planning goals. The Ministry of Health in Uganda requested support from UCMB to lead development of the fertility awareness method modules in the revised national training curriculum.

The Ministry of Health also appreciated the active engagement of religious leaders in the community as they were influential role models but often perceived as barriers to family planning uptake. Both UCMB and UPMB have been acknowledged by the Ministry of Health for their efforts to involve men in family planning services and decision-making.

**Figure 3. Family planning uptake by quarter between Jan. 2014 - Dec. 2015**



### Family planning uptake

A total of 32,176 clients accepted a method after receiving counseling from a trained provider at an intervention site between Jan. 2014 and Dec. 2015 (Figure 3). Uptake of family planning grew substantially in Year 1 (12,691) and Year 2 (19,485) of the intervention as compared to the baseline year (3,551). CHWs contributed substantially to this increase, with 43 percent of new family planning clients receiving counseling at the community level (Figure 4 pg 11).

Family planning uptake across UPMB sites grew by 138 percent from baseline to Year 1 and then by 22 percent from Year 1 to Year 2. Uptake across Caritas Rwanda sites grew by 259 percent from the baseline year to Year 1 and increased another 29 percent from Year 1 to Year 2. Baseline uptake for UCMB is

Figure 4. Comparison of family planning uptake at the facility and community level at baseline (2013), Year 1 (2014), and Year 2 (2015) of the intervention. Caritas Rwanda and UCMB uptake data include only natural methods. UPMB uptake data include all methods.

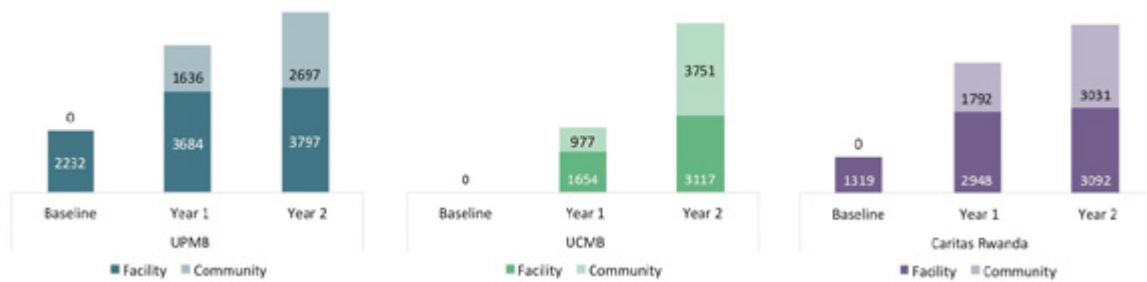


Figure 5. UPMB family planning uptake by method at baseline (2013), Year 1 (2014), and Year 2 (2015)

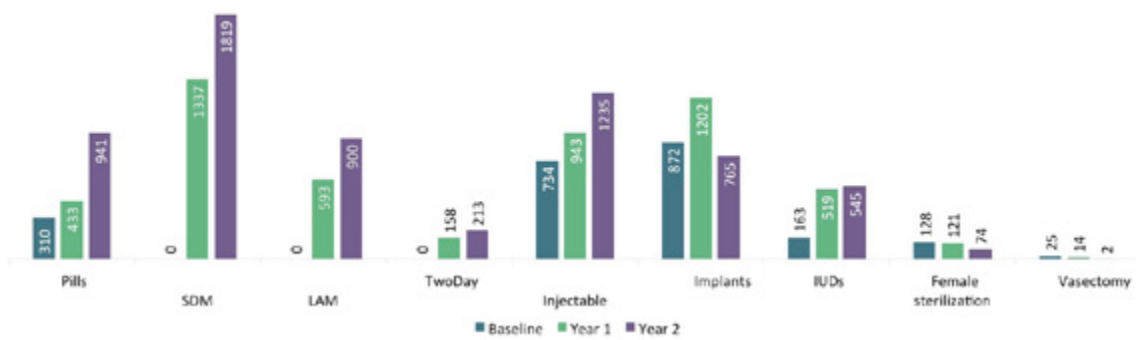


Figure 6. UCMB family planning uptake by method at Year 1 (2014), and Year 2 (2015)

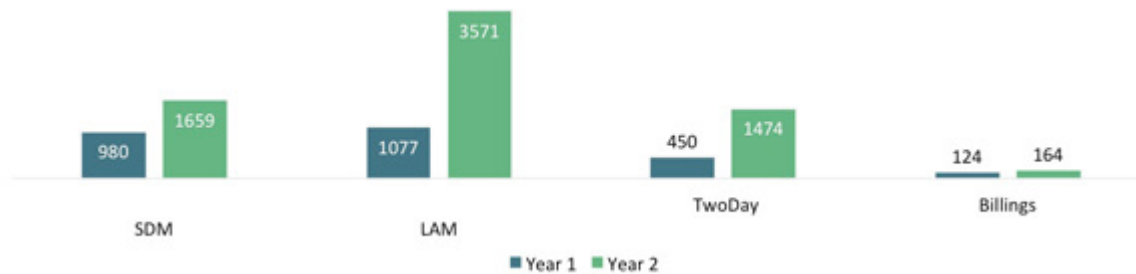
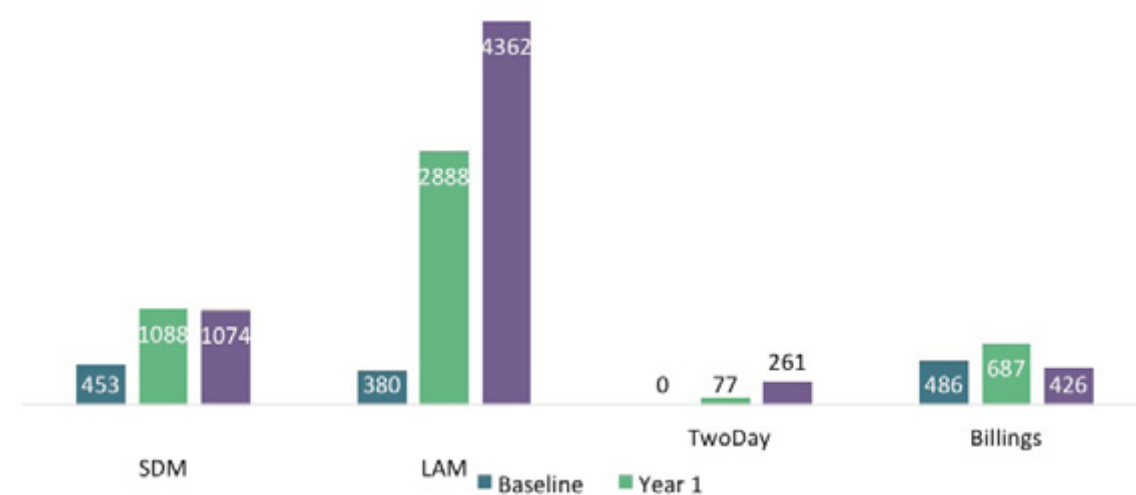


Figure 7. Caritas Rwanda family planning uptake by method at baseline (2013), Year 1 (2014), and Year 2 (2015)



According to interviews with providers, there was a demand for fertility awareness methods among clients, both men and women. The primary reason clients were interested in these options was their lack of side effects.

The number of clients coming to access the service at the facility is increasing. When you teach a group, they tell others and they send them here. (Facility-based provider, UCMB)

People like those methods and say that they are good because they do not have side effects. (CHW, Caritas Rwanda)

When they announce in the church that after the mass those who want natural family planning will meet with the provider, men attend counseling sessions. Moreover, men come when we invite them to attend counseling sessions here at the health center. (Facility-based provider, Caritas Rwanda)

## DISCUSSION

The program evaluation results point to a significant increase in family planning uptake among potential clients when CHAs use a systems approach to program strengthening. These findings demonstrate that faith-based health networks have the potential to meaningfully contribute to family planning outcomes, and they are willing and able to do so with capacity strengthening.

Across all intervention sites, uptake of family planning grew significantly and quickly when comparing baseline service statistics to service delivery during the intervention. Providers and religious leaders were active in awareness-raising and reached nearly 400,000 men and women with family planning information. Clients from UCMB and Caritas Rwanda most frequently opted for LAM, likely due to efforts that CHAs made in integrating family planning into pre-, ante-, and post-natal health services at the facility. This was a critical time for women and couples to receive family planning information and counseling as data globally revealed a large unmet need among postpartum women. While providers actively followed up with LAM users to support their transition to another family planning method, data on the total number of women who succeeded in transition was not available.

Clients from UPMB most frequently opted for SDM, followed by injectable and implant. This finding contrasted with overall rates of method use in Uganda where rates of SDM use were low. However, it is important to recognize that availability of fertility awareness methods in Uganda was low even though the methods were included in the national family planning norms. In reality, providers were not trained to offer any fertility awareness methods, and CycleBeads® were not available in the majority of facilities across the country. Fertility awareness methods were also not generally included in awareness-raising messages, so the community knew very little about their effectiveness and availability. With the information, skills,

and commodities from this intervention, SDM became a viable part of the method mix. Furthermore, it was available for the first time at the community level, which made access easy and cost-effective.

Even though SDM was the most popular among UPMB clients, uptake across other methods continued to increase during the intervention. Exceptions were a minimal decrease in male and female sterilization (which were already low) and a decrease in implant use during the second year of the intervention. This was most likely due to the closing of a separate program intervention that had focused on improving access to the implant in several shared sites.

Competency scores from FAM counseling indicate that the majority of providers scored 75 percent or above across the three methods, which suggests adequate service provision. Providers consistently scored the lowest on the TwoDay Method®, which could be attributed to a number of factors including fewer opportunities for counseling practice due to the smaller number of clients opting for this method and apprehension about women monitoring signs of fertility like cervical secretions. Scores among UPMB providers were consistently lower than scores for providers of a similar profile at Caritas Rwanda and UCMB. Since UPMB provided the full range of methods, there were fewer opportunities for providers to practice counseling clients in FAM. Similarly, providers at Caritas Rwanda and UCMB received more focused mentorship on FAM during supervision visits because they did not offer the full range of methods like providers at UPMB. This indicates the important role of supportive supervision across all programs, regardless of method mix.

Catholic health networks, in particular, have a wide reach in many African countries, but they provide few to no family planning services. The experience of UCMB and Caritas Rwanda reveal that offering modern fertility awareness methods presents a culturally appropriate way to contribute to national and international family planning goals. Where UCMB facilities were providing very limited family planning services before, they are now able to offer multiple options. Providers across UCMB's network have shown an enthusiasm about offering these services, and the increase in use of these methods signals that clients also have a demand for natural options. A demand for fertility awareness methods was also seen across UPMB sites and has been previously documented in Muslim populations<sup>17, 18</sup> signaling broad acceptability across faith communities.

While CHAs are meeting this demand for natural methods, their contribution is not often reflected in national level statistics because the HMIS does not include these methods. Moreover, contraceptive forecasting relies on accurate user data from facilities as this represents demand for each method. In the case of FAM, accurate user data through HMIS reports is essential to advocate for CycleBeads® inclusion in national procurement tables and integration of fertility awareness methods as part of the method mix.

Data reveal that one-third to one-half of clients received their method from a CHW, signaling the importance of bringing family planning services closer to the user. UPMB and Caritas Rwanda had previously offered family planning services only at the facility level. During the intervention, they saw the biggest impact from the expansion of family planning at the community level. Competency scores and provider interviews confirm that CHWs are able and willing to offer family planning to their community, and they perceive it to be consistent with their religious beliefs. Many CHAs have community health programs but are not currently offering family planning methods at the community level due to lack of funding and capacity. Therefore, support is needed to integrate family planning into the services already being provided by CHWs.

By and large, advancements were made toward integration of CHA family planning service delivery into the national strategy. However, without a strategic investment in capacity building among CHAs, their family planning contribution is likely to remain minimal. Family planning reporting tends to be weak across both public and CHA facilities, and parallel reporting structures often exist among CHAs. Considering the challenges of harmonizing reporting structures with the Ministry of Health and the absence of fertility awareness methods in the HMIS, one can assume that the contribution of Christian Health Associations is underrepresented. By strengthening CHA capacity using a systems approach, their contributions can be aligned with national family planning goals such that they are considered essential partners in achieving universal access and reducing unmet need.

Further research is needed on the quality of family planning service provision within CHAs, the comparative contribution to family planning service delivery by the public sector and by CHAs, and the added value of engaging religious leaders in promoting healthy timing and spacing of pregnancy.

### Limitations

The source of our family planning uptake data was program service statistics. Considering that providers were often overburdened and reporting structures were weak, such data was prone to errors. Data quality audits were conducted in select sites throughout the intervention, but the majority of data was not verified externally. We had to assume that program service statistics sufficiently reflected intervention results. Although providers at Caritas Rwanda and UCMB directed women who wanted to use a method that the site did not provide to a nearby facility, referral data was not collected. This should be strengthened in the future.

### CONCLUSION

In light of the present momentum to increase access to family planning through expanding options and engaging non-traditional partners, CHAs play an important role. There is significant untapped potential for family planning among CHAs. They can contribute to important increases in uptake when given a viable way to contribute to family

planning goals. Fertility awareness methods offer a unique opportunity to encourage the participation of Catholic service delivery organizations in family planning, and they add to the choice of options women and couples receive from mixed-method settings. Accurate service delivery reporting in the HMIS is essential for documenting CHA contributions in family planning. Increased attention to strengthening and mainstreaming family planning service delivery across CHAs is imperative to meeting the Sustainable Development Goals, FP2020 goals, and improving the health of women and children.

### REFERENCES

1. Rutstein SO. Effects of preceding birth intervals on neonatal, infant and under-five years mortality and nutritional status in developing countries: evidence from the demographic and health surveys. *Int. J. Gynaecol. Obstet* 2005 Apr; 89(1): S7-S24. <https://doi.org/10.1016%2Fj.ijgo.2004.11.012>
2. United Nations General Assembly [Internet]. Resolution 70/1. 2015. Transforming our world: the 2030 Agenda for Sustainable Development. Available from: [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=E](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E)
3. United Nations, Department of Economic and Social Affairs, Population Division. Trends in contraceptive use worldwide. New York (NY): United Nations; 2015. Available from: <http://www.un.org/en/development/desa/population/publications/pdf/family/trendsContraceptiveUse2015Report.pdf>
4. Olivier J, Tsimpo C, Gemignani R, Shojo M, Coulombe H, Dimmock F, et al. Understanding the roles of faith-based health-care providers in Africa: review of the evidence with a focus on magnitude, reach, cost, and satisfaction. *Lancet*. 2015 Jul; 386(10005): 1765 – 1775. [http://doi.org/10.1016/S0140-6736\(15\)60251-3](http://doi.org/10.1016/S0140-6736(15)60251-3)
5. Campbell OM, Benova L, Macleod D, Goodman C, Footman K, Pereira AL, Lynch CA. Who, what, where: an analysis of private sector family planning provision in 57 low- and middle-income countries. *Trop Med Int Health*. 2015 Dec;20(12):1639-56. <http://doi.org/10.1111/tmi.12597>
6. Bardon-O'Fallon J. Availability of family planning services and quality of counseling by faith-based organizations: a three country comparative analysis. *Reprod Health*. 2017 14(57). <https://doi.org/10.1186/s12978-017-0317-2>
7. Wando L, Metzger A, Huber D, Brown J, Muwonge M. Family planning realities among faith-based medical bureaus in Uganda. *Christian connections for international health*; 2013. Available from: <http://www.ccih.org/Family-Planning-Realities-Uganda.pdf>
8. Tomkins A, Duff J, Fitzgibbon A, Karam A, Mills E, Minnings K, et al. Controversies in faith and health care. *Lancet*. 2015 Jul;386(10005): 1776 – 1785. [http://doi.org/10.1016/S0140-6736\(15\)60252-5](http://doi.org/10.1016/S0140-6736(15)60252-5)

9. Van Enk L, Wilson A, Jennings V. Faith-based organizations as partners in family planning: working together to improve family well-being. Washington (DC): Institute for Reproductive Health Georgetown University; 2011. Sponsored by USAID. Available from: [http://irh.org/wp-content/uploads/2013/04/IRH\\_Faith\\_Report.oct\\_5.reduced.pdf](http://irh.org/wp-content/uploads/2013/04/IRH_Faith_Report.oct_5.reduced.pdf)
10. Duff J, Buckingham W. Strengthening of partnerships between the public sector and faith-based groups. *Lancet*. 2015 Jul; 386(10005): 1786–1794. [http://doi.org/10.1016/S0140-6736\(15\)60250-1](http://doi.org/10.1016/S0140-6736(15)60250-1)
11. United Nations Population Fund. Culture Matters: lessons from a legacy of engaging faith-based organizations. New York (NY): United Nations Population Fund, 2008.
12. Pew Research Center Forum on Religious Life and Public Life. Tolerance and tension: Islam and Christianity in sub-Saharan Africa. Washington (DC): Pew Research Center, 2010. Available from: <http://www.pewforum.org/files/2010/04/sub-saharan-africa-full-report.pdf>
13. Schmid B, Thomas E, Olivier J and Cochrane JR. The contribution of religious entities to health in sub-Saharan Africa. Study commissioned by Bill & Melinda Gates Foundation. Unpublished report. African Religious Health Assets Programme (ARHAP), 2008. Available from: <http://www.irhap.uct.ac.za/irhap/research/pastprojects/healthcontribution>
14. Arévalo M, Jennings V, Sinai I. Efficacy of a new method of family planning: the Standard Days Method®. *ContraVanEnk ception*. 2002 May; 65(5):333-8. [https://doi.org/10.1016/S0010-7824\(02\)00288-3](https://doi.org/10.1016/S0010-7824(02)00288-3)
15. Arévalo M1, Jennings V, Nikula M, Sinai I. Efficacy of the new TwoDay Method of family planning. *Fertil Steril*. 2004 Oct;82(4):885-92. <https://doi.org/10.1016/j.fertn-stert.2004.03.040>
16. Labbok M, Hight-Laukaran V, Peterson A, Fletcher V, von Hertzen H. Multicenter study of the Lactational Amenorrhea Method (LAM): I. Efficacy, duration, and implications for clinical application. *Contraception*. 1997 Jun;55(6):327-36. [https://doi.org/10.1016/S0010-7824\(97\)00040-1](https://doi.org/10.1016/S0010-7824(97)00040-1)
17. Toth C. A powerful framework for women: introducing the Standard Days Method® to Muslim couples in Kinshasa. Washington (DC): Institute for Reproductive Health Georgetown University; 2011. Sponsored by USAID. Available from: [http://irh.org/wp-content/uploads/2013/04/FAMProjectReport\\_MamansAnSarDRC\\_FINAL.pdf](http://irh.org/wp-content/uploads/2013/04/FAMProjectReport_MamansAnSarDRC_FINAL.pdf)
18. Family Health International. The Standard Days Method® in Kenya's Ijara District: final results and implications for programs. Nairobi: Family Health International; 2009. Available from: <https://www.k4health.org/sites/default/files/SDM%20brief%20KENYA%20110609%20%281%29.pdf>

# FAMILY PLANNING AND REPRODUCTIVE HEALTH SUPPLY STOCK OUTS: PROBLEMS AND REMEDIES FOR FAITH-BASED HEALTH FACILITIES IN AFRICA.

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## ABSTRACT

### Background and aims

Faith-based organizations (FBOs) provide a substantial portion of the health care services in many African countries. FBO facilities do consider family planning and reproductive health services as essential to reducing maternal and child mortality, and to the growth of healthy families. Many health facilities, however, struggle to maintain adequate stocks of reproductive health (RH) supplies because of the various RH supply chains and funding sources, which often operate separately from other medicines and supplies. The purpose of this study is to identify the types of supply chain systems used by African faith-based health facilities to acquire reproductive health products (clotrimazole, combined oral contraceptive pills, contraceptive implants, CycleBeads®, emergency contraception, Erythromycin, female condoms, injectable contraceptives, intra-uterine contraceptive devices, magnesium sulfate, male condoms, Methyl dopa, Misoprostol, Nifedipine, Oxytocin, and Progestin-only pills), to describe their problems and challenges, and to identify possible corrective actions.

### Methods

Through email surveys, phone interviews, and on-site visits, we studied the supply chains of 46 faith-based health facilities in 13 African countries. Sixteen RH commodities, including contraceptives, were selected as indicators.

### Results

Of the 46 facilities surveyed, 55 percent faced stockouts of one or more products in the three months prior to the survey. Stockouts were less common for contraceptives than for other RH products. Significant strengths of the FBO supply chain included creativity in finding other sources of commodities in the face of stockouts, staff designated to monitor quality of the commodities, high capacity for storage, low incidence of expired products, few instances of poor quality, and strong financial sustainability mechanisms, often including patient fees. Weaknesses included unreliable commodity sources and power supplies, long distances to depots, and problems maintaining the cold chain.

### Conclusions

By studying the supply chains of faith-based health facilities, Christian Connections for International Health (CCIH) and its members have created new awareness among FBOs and international agencies of the importance and

challenges of these systems and have suggested actions toward improvement. The Alliance of Christian Faith-Based Organizations for Family Planning (ACFBOFP) formed in Cameroon to strengthen commodity security may be a good model for other FBOs to consider. Cost recovery models with stronger quantification and forecasting systems, including trained staff, can help meet the FP and RH needs of families and can help assure the long-term sustainability of FBO health systems. This study can serve as a frame of reference as we move forward, anticipating an acceleration in interest to strengthen FBO supply chains to reach as many communities as possible with available, quality supplies and services.

## INTRODUCTION

Christian Connections for International Health (CCIH), a global network of Christian health organizations, conducted a survey in 2008 among its members about their family planning and reproductive health (FP/RH) activities.<sup>1</sup> One striking finding was their frequent mention of difficulties in ensuring steady supplies of important FP/RH items. To help them address these problems, CCIH collaborated with John Snow, Inc., to produce a simple guide<sup>2</sup> and webinar<sup>3</sup> about how to get RH supplies for health facilities. In 2014, after years of qualitative reports from faith-based facilities, and in order to document how faith-based hospitals and clinics procure and distribute FP/RH supplies, CCIH undertook an investigation focused on a more thorough understanding of supply chain systems and overall commodity security among Christian health facilities in Africa, funded by the Reproductive Health Supplies Coalition (RHSC).<sup>4</sup>

## GOALS AND OBJECTIVES

The goals of the study were to understand the supply chain systems of FBOs in Africa, including the stockouts and challenges they faced, and to recommend possible solutions. The objectives were to describe the basic characteristics and challenges of the supply chains at the service-delivery level; to deepen understanding of the types of supply chains used to access vital supplies for family planning and reproductive health (FP/RH) activities; to identify potential partners; and to design strategic interventions to improve FP/RH supply availability at the service-delivery level.



## METHODS

Data collection was conducted between October 2014 and February 2015 in three phases: email surveys, phone interviews, and country visits. All phases focused on key drivers of commodity security, including the following:

- Sources used by FBO facilities to obtain FP/RH products, i.e., Ministry of Health (MOH) depots, faith-based supply organizations (FBSO) (broadly referenced pharmaceutical depots operated by faith-based organizations), other sources (i.e., retail pharmacies, wholesalers, social marketing depots), and international sources (i.e., international funders, donor-funded projects, international non-governmental organizations).
- Nature of transactions between the FBO facilities and their suppliers.
- Different types of supply chains and the risk of stockouts associated with each type.
- Facility practices for inventory and storage of products.
- Training of staff responsible for logistics and management of supplies.
- Financing for FP/RH supplies and logistics.
- Institutional and contextual factors influencing the availability of products.

The list of RH products used in this study (see Figure 1) was based on the resource “Essential Medicines for Reproductive Health”<sup>5</sup> from World Health Organization (WHO), PATH, and the United Nations Population Fund (UNFPA). Essential Medicine Lists (EMLs) were determined by committees appointed by WHO to include medicines that provided safe, effective treatments and were needed to guide a country’s national drug policy to ensure access, quality, and rational use. In most countries, the Ministry of Health (MOH) elected a committee to determine the list for their country, guided by the WHO EMLs. Survey questions were influenced by the “Guide to Conducting Supply Chain Assessments”<sup>6</sup> from the USAID DELIVER Project.

### Part 1: email survey 7

The survey was written and pretested in English and French. In collaboration with the national health offices of faith groups in 20 African countries, the researchers developed a list of 120 potential FBO health facilities. They then corresponded by email directly with the health facilities, first contacting the medical director, then identifying and corresponding with the staff member responsible for FP/RH supplies. (Exceptions were made for some remote facilities without internet access.

**Figure 1. Reproductive health products**

- Clotrimazole
- Combined oral contraceptive pills
- Contraceptive implants\*
- CycleBeads®\*\*
- Emergency contraception
- Erythromycin
- Female condoms
- Injectable contraceptives
- Intra-uterine contraceptive devices
- Magnesium sulfate
- Male condoms
- Methyldopa
- Nifedipine
- Oxytocin
- Progesterin-only pills

\*Implants added to the list as they are a commonly used FP method

\*\*CycleBeads® added to this list as they are a natural form of FP

In these cases, the central FBO health office printed the survey, sent it to the facility, then collected it and sent the replies by email to the researchers). Each respondent gave informed written consent for participation. The survey asked about the sources and suppliers from which the facility obtained FP/RH items, the characteristics of supply storage at the service-delivery level, and recent stockouts of selected products.

### Part 2: phone interviews<sup>7</sup>

Investigators conducted follow-up phone interviews with a subset of 16 of the survey respondents in six countries, representing diverse Christian groups (Baptist, Methodist, Catholic, Pentecostal, Presbyterian, etc.), that also had high levels of reported stockouts. The purpose was to clarify and explore further the details of their supply chains, and to understand why stockouts occurred and how they could be prevented. The phone interview guide was written in English and French. Some questions for the phone interviews were extracted from existing international logistics assessments; others explored in more detail the responses to the email survey. Verbal informed consent was required from each participant at the start of the phone interview.

### Part 3: country visits

The purpose of the country visits was to gain more detailed understanding of the situations and challenges of a range of FBO facilities in two different countries, to explore key factors beyond the facilities (at higher levels of the supply chains), and to inform future supply chain interventions. Three regions of Cameroon (13 meetings) and two regions of the Democratic Republic of the Congo (DRC) (17 meetings) were selected for in-person site visits, as they had high levels of study participation and had different types of supply chains. Field visits were conducted by a consultant fluent in English and French who had lived for extended periods in both countries. In each country, visits included health institutions (many of which had participated in the email surveys and phone interviews), national-level FBO coordinating offices, warehouses of health commodity suppliers, and officials of the Ministry of Health and UNFPA.

## RESULTS

### Characteristics of FBO health facility respondents

Of the 120 facilities contacted in 20 countries, 46 facilities from 13 countries responded to the email survey. Participating countries included Cameroon, Central African Republic (CAR), Chad, Democratic Republic of the Congo, Ethiopia, Kenya, Malawi, Niger, Nigeria, Tanzania, Uganda, Zambia, and Zimbabwe. Table 1 shows the principal characteristics of the facilities surveyed and Figure 2 shows survey responses by country.

### Services provided and service fees

All 46 faith-based health facilities provided antenatal care services (Figure 3), and all but two provided family planning services to their patients. Half the facilities charged patients fees for FP services, while nearly all of them charged for delivering babies.

Survey respondents reported an average of 9.7 family planning patients seen per day in their faith-based health facility. The smaller facilities reported a higher number of FP patients per day (13.6) than the medium (5.8) and large (7.2) facilities. Rural facilities reported a larger average number of FP patients per day (12) than urban facilities (6). Post-abortion care (PAC) was provided by some facilities for women experiencing miscarriage or complications from an induced abortion. Unintended pregnancy, which was the root cause of induced abortion, could result from lack of supplies, contraceptive failure, non-use, lack of knowledge, and other factors. Emergency treatment and post-abortion family planning were part of PAC services; the latter helped prevent future unintended pregnancies and abortions.<sup>8</sup>

### Management, sources, and availability of FP/RH supplies

Logistics management of commodities was overseen primarily by clinical staff; only one FBO facility had a professional logistician. The survey asked each facility about 16 selected

FP/RH items and about their suppliers (in-country and out-of-country).

Twelve of the 16 RH products were used by at least 80 percent (37) of the FBO facilities. These were male condoms, injectable contraceptives, combined and progestin-only oral contraceptives, contraceptive implants, erythromycin, clotrimazole, magnesium sulfate, methyldopa, misoprostal, nifedipine, and oxytocin.

- Among contraceptives, CycleBeads® were the least commonly offered, by only 17 of 46 surveyed facilities. Intra-uterine devices (IUDs) were next, being offered by 30 facilities.
- The MOHs (compared to FBSOs, international sources, or other sources) were the most common suppliers of oral contraceptive pills and CycleBeads®. In fact, 50 percent or more of the facilities reported that their MOH supplied all their contraceptive products, with the exception of IUDs.
- For non-contraceptive RH products, depots of FBSOs were the principal sources.

**Table 1. Characteristics of Facilities Responding to the Email Survey**

Characteristic	N	Percent of Responding facilities
Language		
Anglophone	29	63%
Francophone	17	37%
Type*		
Health Center	17	37%
Hospital	29	63%
Location**		
Urban	15	33%
Rural	30	67%
Size***		
Small	20	45%
Medium	13	30%
Large	9	20%
Very Large	3	7%

\*Location: Missing location data for one facility (urban vs. rural)

\*\*Type: Countries with just one facility response were left out of the graph

\*\*\* Staff size: Small= <30; Medium: 31-100; Large: 101-300; Very Large: >300

Figure 2

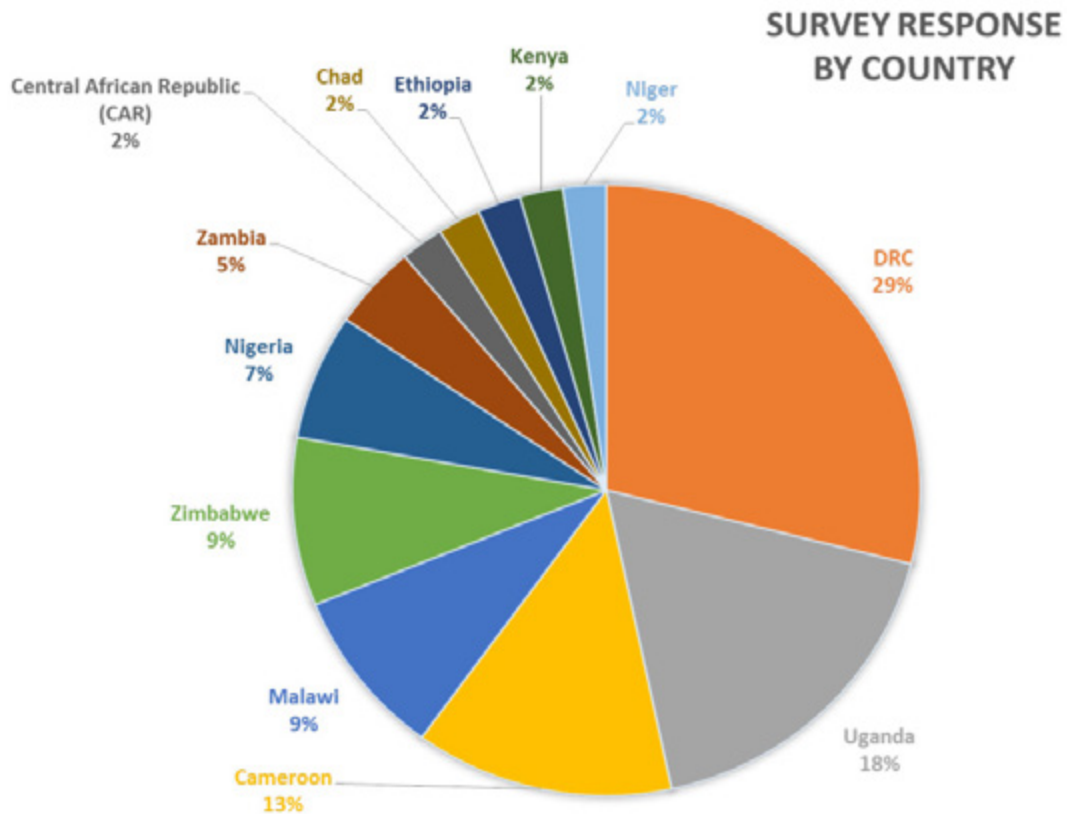
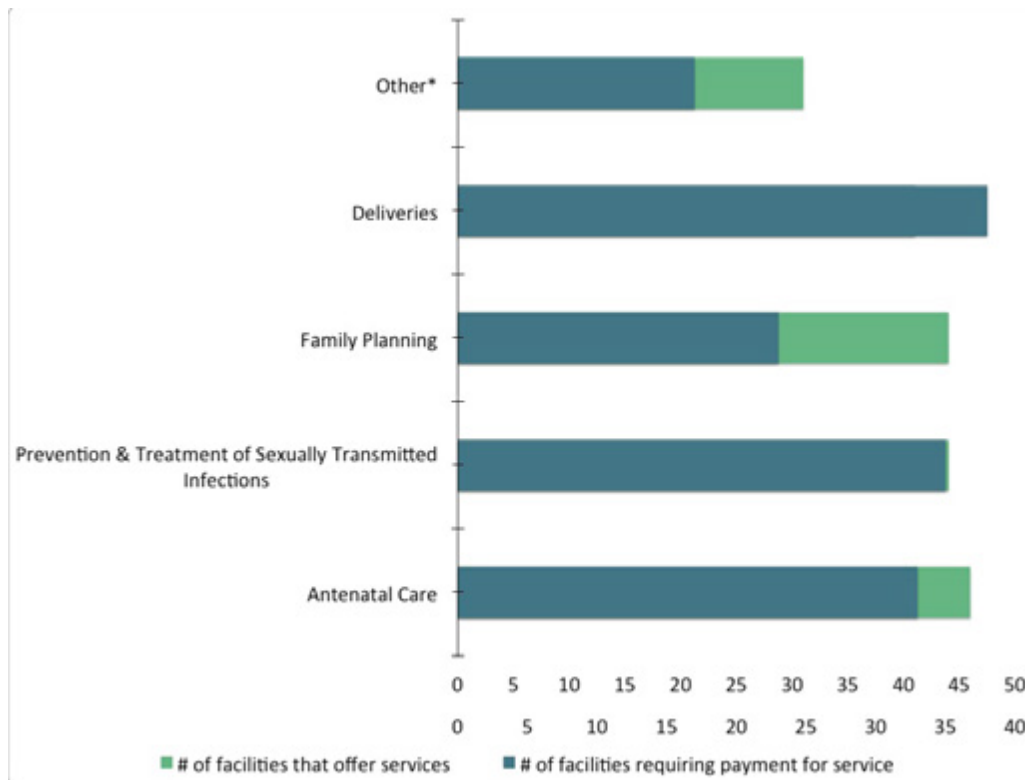


Figure 3: FP/RH services offered and patient payments (n=46 FBO health facilities)



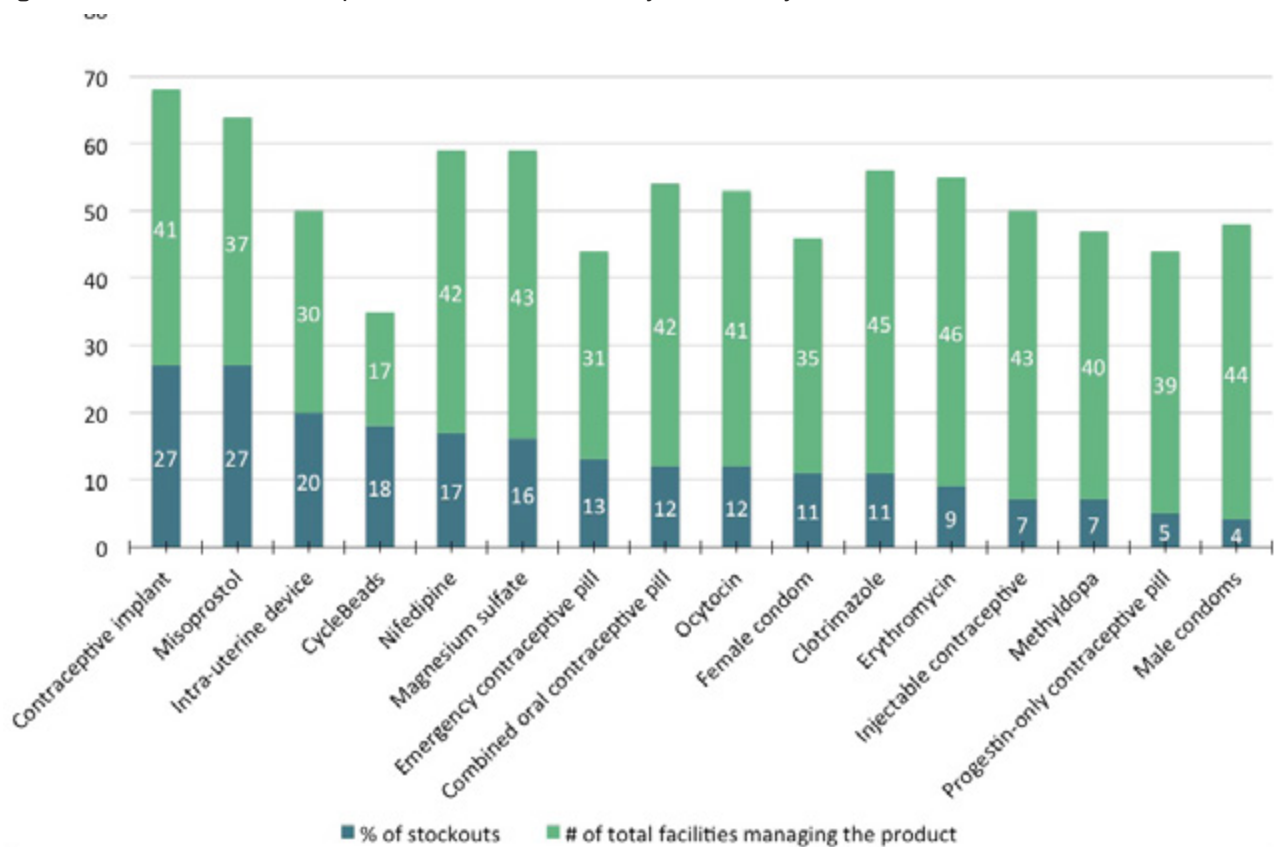
\* Other health services mentioned by respondents: breast cancer screening, cervical cancer screening, deliveries, postnatal care, post-abortion care

Only one product (misoprostol) was received mainly from “other” in-country sources (neither MOH nor FBOs).

Contraceptive implants and misoprostol were the two

products most commonly out of stock on the day of the survey (Figure 4).

Figure 4: Number of facilities and percent stocked out on the day of the survey



- When facilities were asked whether they would like to be connected with other suppliers of contraceptives, most facilities readily responded, “Yes.” One in Cameroon responded “Yes. Supplies have been stable in the past few months, but we have had stockouts in times past. Other sources will further stabilize our supply and might even be cheaper, reducing cost, which presently acts as a barrier for a significant proportion of our potential clients.” A large rural hospital in Uganda said it had missed opportunities when they did not have supplies. “If a woman comes for contraceptives and we don’t have them, we miss an opportunity to provide for her,” a hospital representative said. A Kenyan facility staff said, “Oxytocin, received from a commercial supplier, was not working. We injected it, but it was not working. We had to buy another expensive type. We informed the supplier of the problem; they acknowledged it and we took it back. We got a new supply from another supplier.”
- A closer look — country visits
- Country visits early in 2015 aimed to document in more detail the context of faith-based health supply systems,

the current range of suppliers of commodities to FBO health facilities, and FBO relationships with their ministries of health and international donors.

### Case study 1: Cameroon

The field investigator had contact with health facilities and depots located in three provinces and managed by four FBO groups, the health division of the Cameroon Council of Protestant Churches (a countrywide network), the MOH, and UNFPA. The faith-based groups in Cameroon followed MOH guidelines and procedures, but each group procured and managed health supplies on its own. The Cameroon Baptist Convention Health Services (CBCHS) had a large central pharmacy depot, with satellite depots supplying 6 hospitals and 80 health centers in many parts of the country. The Presbyterian Church of Cameroon (PCC), the Eglise Evangélique du Cameroun (EEC) (Evangelical Church of Cameroon), and the Eglise Evangélique Luthérienne (Evangelical Lutheran Church of Cameroon) in northern Cameroon were also operating numerous health facilities and depots.

The FBSOs in Cameroon ran depots and purchased medicines (including oxytocin, misoprostol, etc.) from varied sources: some from MOH depots, some from overseas shippers, and some from local pharmaceutical companies. The FBSO depots then sold products to their own networks of hospitals and health centers (though they reported not always receiving prompt payment from their health facilities). The FBO hospitals and health centers charged patients for these medicines and services.

For contraceptive supplies, on the other hand, Cameroonian FBOs depended almost entirely on the Ministry of Health. Since the MOH obtained contraceptives free of charge from the United Nations Population Fund, FBO facilities were not allowed to charge patients for those FP commodities (though they could charge for related services, such as insertion of an implant or an IUD). Health facilities mentioned numerous recent stockouts of contraceptives, particularly implants. In a few stockout episodes, the FBOs reported that they had purchased contraceptives from the national social marketing association and then had to charge patients to offset the costs.

## Case study 2: Democratic Republic of the Congo (DRC)

Site visits in DRC were in two mountainous, land-locked eastern provinces (North Kivu and South Kivu). They included rural and urban health facilities, drug depots (faith-based and regional), the social marketing agency, the MOH, and UNFPA. The DRC health system is based on the country's 516 well-defined health zones (HZ). Within a given HZ, the hospitals and health centers are owned and operated by varying groups, such as the MOH, one or more FBOs, or community groups; they were all expected to collaborate in health zone planning, administrative procedures, and supply procurement. Each of the country's nine administrative provinces had one or more approved depots for medical supplies operated by the MOH, by an FBO, or by another registered group. International health agencies and other donor organizations, including faith-based donors, were strongly encouraged to work within the depot system and the HZ system, and to collaborate with each zone's own plans and procedures.

They included HZ offices, health facilities, depots (faith-based and regional), the social marketing agency, MOH, and UNFPA. The standard process for obtaining medicines and supplies (including FP/RH commodities) was as follows:

- The central office of each HZ compiled monthly service reports and also commodity orders from all its health centers and hospitals.
- The HZ central depot then placed a combined order from an approved pharmaceutical depot.
- When the supplies arrived, the HZ depot notified the facilities, and each facility sent their own motorcycle or vehicle, or they rented a vehicle, to pick up their supplies and medicines.

All health facilities (government, church-based, or private) charged patients for procedures and for medicines. Exceptions included certain products that were entirely funded by the MOH and/or international donor programs (immunizations, mosquito nets, tuberculosis tests and medicines, HIV/AIDS tests and medicines, and contraceptives). These fully funded products were provided to the public without charge, though health facilities were allowed to charge only for related services, such as insertion of contraceptive implants or IUDs.

The site visits confirmed that most FP/RH products came from Europe, India, or the USA, sometimes by air, but usually via ocean, then by truck overland to the regional depots. Most FBO health facilities used multiple sources for their RH supplies: primarily the depot of their own health zone, then (when necessary) their regional depot, commercial pharmacies, or a social marketing organization.

## DISCUSSION

In the 13 African countries and 46 faith-based health facilities studied, the differences within and among countries, in how they accessed FP/RH supplies and how they managed logistics practices and stockouts, had different strengths and challenges but certain patterns were evident. While FBO health facilities obtained RH medicines from a variety of sources, 50 percent or more of the FBO facilities reported that nearly all their contraceptive products came through the MOH supply system. This provided an overwhelming challenge if and when the MOH supplies were unavailable or the quantity was insufficient to serve both government and faith-based health facilities. Managing FP/RH commodities through an inconsistent source of supplies reduced the ability of the FBO facilities to consistently offer a full range of services and choices to their patients. The strengths, challenges, and possible interventions discussed below attempt to address the variety of logistical issues in FP/RH supply chain systems. The aim was to ensure whether the right product was adequately stocked at the right place and at the right price for everyone in their community.

### 1. Ordering FP/RH supplies

Generally, hospitals and health centers made their own ordering decisions for FP/RH products using standard logistics tools. Exceptions occurred in some facilities completely dependent on the MOH (and occasionally on other donors) where the supplier decided on the quantities the facility received.

**Strengths:** Most FBO facilities considered safety stocks when determining quantities to order, funds permitting. Safety stocks are defined by the USAID DELIVER project as "The additional buffer, cushion, or reserve stock kept on hand to protect against stockouts caused by delayed deliveries, markedly increased demand, or other unexpected events. The safety stock is expressed in number of months of supply, which can also be converted into a quantity."<sup>9</sup>

**Challenges:** Fifty-five percent of surveyed facilities experienced stockouts of contraceptives in the three months prior to the email survey, though most had found other sources or substituted other products. While the ingenuity of the facilities is commendable, it is not ideal, as it reduces the facilities' ability to consistently offer a full range of choice to patients. Ordering practices were also inconsistent for FBO facilities, in large part due to irregular supply and/or unpredictable deliveries from sources. Facilities that could not rely on a consistent source of supply for products were more likely to say they did not consider safety stocks in their inventory. Some facilities said they received products that were not what they ordered or needed. Two facilities that used out-of-country sources reported that supplier stockouts and time-consuming customs procedures were major hurdles; these problems may prevent many FBOs from considering low-cost, high-volume purchases of FP/RH commodities from international sources. Also, we must wonder if after counseling on all methods, whether the patient's choice of FP method was influenced by what was available in the facility vs. the method they wanted as their first choice, which was unavailable. Also, supply-related bottlenecks such as cost (cost for governments and organizations to procure and distribute methods, and possible costs to the patients) may prevent patients from obtaining and using their methods of choice. FBOs and all health facilities should counsel patients on all FP methods so patients may choose the best method for them. At the same time, FBO health facilities must advocate with their governments and drug supply organizations to obtain products at a low overall cost per year so the systems are sustainable (including cost-recovery, noted below) and costs to patients are realistic and accessible.

## 2. Cost recovery and financing

Overall, the main source of financing in African FBO health facilities was patient fees, followed by external funding or donations, and subsidies from the Ministry of Health (in the form of salary payments to some staff members, or direct budget subsidies). Responses about fees charged to patients varied widely. Many facilities charged patients for RH medicines, depending on the source of supply. On the other hand, for contraceptives, if the MOH gave them free to a health facility, the facility was typically not permitted to charge patients for the product (though some were allowed to charge for procedures when inserting IUDs and contraceptive implants).

**Strengths:** The most sustainable supply systems seemed to occur in the facilities with a single faith-based source of all FP/RH products, including contraceptives, and where patients paid something for all products.

**Challenges:** A few facilities noted that contraceptives (especially long-term methods) purchased from FBSOs were "too expensive," compared to those provided free by the MOH or from international organizations. One facility mentioned having a substantial debt burden with its FBSO. Even if FP/RH commodities were funded by international organizations (i.e., USAID, UNFPA), many other costs were incurred in

getting the items to the people who needed them. In order to provide contraceptives and other RH supplies sustainably, warehouses run by the MOH or by an FBO need to be able to recover their costs (for the products, customs charges, transport, their personnel, and related services). FBO health facilities, in turn, must cover costs of their personnel and of commodity transport and storage. At the final service delivery point, the prices charged to the patients (for the product and/or related services) must be low enough for the majority of their patients to afford. If FBOs are not allowed to charge any fees, they will sooner or later have serious financing problems. The challenge is to find models of FBOs or other non-governmental organizations in Africa or other parts of the world that have successfully addressed the issue of long-term sustainability. We noted that rural, small FBO facilities in this survey served more FP patients than urban, large facilities, where people had a wider choice of health facilities and pharmacies to obtain their contraceptives. Thus it is essential that staff at smaller facilities be trained to store products properly, to conduct quantification and forecasting, and to provide quality services to their patients. Small, rural facilities face particular problems: Are travel funds available to send staff for trainings on quantification and forecasting? Who will do their job (or multiple jobs) while they are away? Consistent pay schemes must be in place to maintain the trust of the patient, and having variations in pay, depending on the ability or inability of the MOH to provide reliable products, is an issue to consider and overcome. The ability of an FBO to change its suppliers and/or practices will depend upon relationships with the suppliers, ordering practices, cost of commodities, and the distance and transportation involved. We did not assess why some products were included in some facilities and not in others; presumably such factors as treatment priorities, cost, availability, client preferences, and training all played a role.

## 3. FBO supply and pipeline management

In any faith-based system, planners must analyze:

- whether the principal public-sector source has mobilized adequate financing to supply subsidized products in a timely fashion to FBOs,
- whether the FBSO and FBO facilities have access to competitive and high-quality sources,
- whether good logistics management practices are in place through the whole supply chain, and whether their staff is trained,
- the strength of the relationship between FBOs and the supply sources, and the FBO's influence in the relationship (either individually or as part of a collective).

Finally, we can suggest potential areas of intervention for the two countries studied most closely: Cameroon and the Democratic Republic of the Congo.

Seven Cameroonian faith-based organizations started meeting in early 2016 with an initial introduction to the SMART family planning advocacy framework from Advance Family Planning.<sup>10</sup> They developed group goals and objectives to move forward as a group of Cameroonian FBOs to reduce stockouts in their facilities. They then formally organized themselves as the Alliance of Christian Faith-Based Organizations for Family Planning (ACFBOFP) and registered with the government.<sup>11</sup> This group developed a constitution, internal rules, a governing body, and training on family planning methods for its members. It continues to meet on advocacy strategy and is recruiting additional FBOs to the alliance. Four of the Cameroonian FBOs have been trained on the country's UNFPA forecasting system to enable them to strengthen and organize their internal systems to monitor and collect data necessary to participate in the national supply chain systems. This allows them to participate in the national process for forecasting and receiving commodities. They are moving forward as a team, ensuring that the concerns and issues of each individual FBO are raised at each meeting. This enables the group to revise their next steps toward the full provision of products for the programs and services that meet the needs of their communities. Interventions need to focus on this group's infrastructure, on collaborative advocacy for the faith-based sector, on equipping all groups to participate in the national quantification and forecasting system, and on ensuring commodities are able to be procured, stored, transported, and distributed in a financially sustainable structure.

In the DRC, strong multi-sectoral collaboration was evident in the facilities surveyed and visited. Addressing stockouts will mean understanding and working within the existing HZ system. Solutions must complement the DRC 2014–2020 FP National Multi-sectoral Strategic Plan.<sup>12</sup> Most FBO facilities surveyed had staff already trained to provide FP services; the challenge was obtaining regular and reliable supplies. Therefore, interventions should target HZs currently offering limited FP services because of stockouts. Helping these HZs will mean identifying zones with trained FP providers

and helping them link to regular sources of RH supplies at the provincial or national levels. However, the DRC is a large country and working with in-country partners is vital to assessing updated needs and interventions.

## CONCLUSIONS AND RECOMMENDATIONS

Faith entities are a critically important component of the overall health system in many countries, particularly in hard-to-reach rural areas; without them, large numbers of people would be deprived of services. Addressing stockouts in a faith-based facility requires understanding its supply chain, its merits and challenges, as well as the broader context in which it exists (i.e., donors of supplies, MOH-FBO relationships, etc.). In addition to cost recovery systems, long-term, sustainable forecasting, quantification, and procurement practices need to be considered because of the multiple types of supply chain systems among and within countries. In order for faith-based organizations to provide their communities with the most robust access to good quality and affordable medicines, these issues must be addressed, and models must be tested with faith-based supply organizations. With the right support and infrastructure, the Cameroonian alliance pilot model should be considered for replication by other African countries and FBOs to ensure commodity security for the benefit of the overall country systems. As FBOs continue to provide a large proportion of health care services in Africa, they must be major collaborators in reducing stockouts of reproductive health supplies and ultimately in enhancing the lives of children, women, and families.

## REFERENCES

1. Christian Connections for International Health and the FAM Project at Georgetown University. International family planning: Christian actions and attitudes: a survey of Christian Connections for International Health Member Organizations [Internet]. McLean, VA. 2008. Available from: <http://www.ccih.org/ccih-publications/166-international-family-planning-christian-actions-and-attitudes-a-survey-of-christian-connections-for-international-health-member-organizations-.html>
2. USAID, John Snow Inc. Deliver Project and Christian Connections for International Health. Getting contraceptives to health facilities: 10 questions for community-based groups to consider [Internet]. McLean, VA 2012 [Updated 2013]. Available from: <http://www.ccih.org/ccih-publications/411-getting-contraceptives-to-health-facilities-10-questions-for-community-based-groups-.html>
3. Christian Connections for International Health and John Snow Inc. Deliver Project. Webinar on Getting Contraceptives to Health Facilities [Internet]. McLean, VA. 2013. Available from: [https://www.youtube.com/watch?v=r-ZgY-Xw\\_HO8](https://www.youtube.com/watch?v=r-ZgY-Xw_HO8)
4. Christian Connections for International Health. Building the evidence: unique stockout challenges of FBO health facilities [Internet]. Washington, DC. 2015. Available from: <http://www.ccih.org/CCIH-RHSC-Phase-1-Report.pdf>
5. PATH, the World Health Organization, and the United Nations Population Fund. Essential medicines for reproductive health: guiding principles for their inclusion on national medicines lists [Internet]. Seattle. PATH. 2006. Available from: [http://www.path.org/publications/files/RH\\_essential\\_meds.pdf](http://www.path.org/publications/files/RH_essential_meds.pdf)
6. USAID DELIVER Project. Guide to conducting supply chain assessments using the LSAT and LIAT [Internet]. Arlington, Va. 2011. Available from: [http://deliver.jsi.com/dlvr\\_content/resources/allpubs/guidelines/CondSCAsseL-SATLIAT.pdf](http://deliver.jsi.com/dlvr_content/resources/allpubs/guidelines/CondSCAsseL-SATLIAT.pdf)
7. Survey instruments available upon request: email [ccih@ccih.org](mailto:ccih@ccih.org)
8. Huber D, Curtis C, Irani L, Pappa S, Arrington L. Postabortion care: 20 years of strong evidence on emergency treatment, family planning, and other programming components. *Glob Health Sci Pract.* 2016;4(3):481-94. Available from: <https://doi.org/10.9745/GHSP-D-16-00052>
9. USAID DELIVER Project, Task Order 1. 2011. The logistics handbook: a practical guide for the supply chain management of health commodities. [Internet]. Arlington, Va. Available from: <http://apps.who.int/medicinedocs/documents/s20211en/s20211en.pdf>
10. Advancing Partners and Communities. AFP Smart: a guide to quick wins. [Internet]. 2015. Available from: <http://advancefamilyplanning.org/resource/afp-smart-guide-quick-wins-powerpoint>
11. For more information regarding the Alliance of Christian Faith-Based Organizations for Family Planning (ACFBOFP) in Cameroon, please contact [ccih@ccih.org](mailto:ccih@ccih.org)
12. DRC 2014–2020 FP National Multi-sectoral Strategic Plan [Internet]. 2014. Available from: <http://www.familyplanning2020.org/resources/5614>



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# MATERNAL HEALTH



## BASIC HEALTHCARE TRAINING SAVING MATERNAL AND NEWBORN LIVES IN EAST AFRICA

Author: Stephanie Weiland

Executive Director, LifeNet International

Mothers and newborns in East Africa lack access to quality healthcare services and suffer from extreme rates of mortality. Every day, 830 women unnecessarily die from pregnancy and childbirth. 99 percent of those deaths occur in developing regions like East Africa. Newborns in this region also disproportionately bear the burden of inadequate access to quality healthcare. Sub-Saharan Africa suffers from one of the highest rates of under-five death in the world, with one-third of those deaths occurring during the first month of life.

International agencies agree that as many as 66 percent of newborn deaths and 74 percent of maternal deaths could be prevented through implementation of known, evidence-based best practices. Hundreds of thousands of maternal and newborn deaths could be prevented every year if health workers in developing regions were trained and equipped to put evidence-based, high-impact interventions into practice at their local health centers.

Trained and equipped health workers are key to improving healthcare outcomes for mothers and newborns. LifeNet International (LN) is one organization working to improve healthcare in East Africa, especially for mothers and babies, from the ground up through its results-oriented partnership network. East African health centers in its network receive a bundle of interventions, including in-person training for medical and management staff, pharmaceutical and equipment supply, and ongoing quality assurance.

In-person training transforms healthcare in East Africa. Evidence-based medical and management trainings are delivered directly to health workers in the network. Trainers provide health center staff with modules of training specifically geared toward reducing the mortality rates of the most vulnerable patients in the region, especially mothers and newborns. Additional modules are used to train health center staff in management best practices and are aimed at improving the financial sustainability of the center. By overlaying its operations onto existing health center operations, LN reduces the overhead costs while strengthening the quality of healthcare available in each clinic.

The LN partnership network provides a framework for rapidly and effectively deploying life-saving initiatives to reach health facilities in underserved regions. This model can make it possible for aid organizations and local governments in East

Africa to collaboratively reach last-mile health facilities with packages of training in WASH, proper nutrition, management of non-communicable diseases, HIV prevention and treatment, and more. The model opens the door for life-saving and life-improving collaboration in the region.

The medical results of the model demonstrate its effectiveness. Data gathered from 73 health centers over three years reveal that health worker competency and implementation of evidence-based medical and management best practices have dramatically improved through the health centers' partnerships with LN. Nurses improved from 44 percent adherence to maternal health best practices and 52 percent adherence to neonatal health best practices to an overall 86 percent adherence to both maternal and neonatal health best practices. These dramatic improvements are due to the implementation of practices that are proven to save and improve the lives of mothers and newborns.

Management improvement results are similarly striking. By following established trainings in pharmacy, management, and administrative best practices, management staff in the partner health centers improved from initial implementation rates of 43 to 52 percent for best management practices to 88 percent post-intervention. This improvement represents the health centers' improved record keeping, financial management, sustainability, and increased availability of essential medicines.

A results-driven model of training and equipping local health workers is a cost-effective means of building sustainability and capacity in last-mile health centers in East Africa. These newly sustainable and high-capacity centers can, in turn, implement evidence-based best practices in management and in the medical care they offer to mothers and newborns.

Poor health systems are perpetuating extreme rates of death for mothers and newborns in East Africa. The success of health centers in the LN network demonstrates the potential of its model to transform healthcare in East Africa from the ground up. By addressing healthcare needs at the health worker and local health center level, the model places ownership of quality healthcare services back into the hands of East African nurses and managers, building capacity and ensuring long-term improvements in care for mothers and newborns in LN's health center network.

## IMPLEMENTATION REPORT ON THE MDG ACCELERATED FRAMEWORK (MAF): 100 DAYS FREE FROM MATERNAL MORTALITY

Author: James Duah

MD, MPH, EMBA, Deputy Executive Director Christian Health Association of Ghana (CHAG)

CHAG is a network of 300 Christian Health facilities and Health Training institutions owned by 25 church denominations. CHAG is the second largest agency of the MOH. With 74 hospitals, 210 clinics & health centres, 16 Health Training Institutions and only 5.5% share of the health infrastructure in Ghana, CHAG provides about 30-40% of health care delivery. CHAG's mission is to continue the healing ministry of Christ and it does so by providing quality and affordable preventive, curative and rehabilitative health care for the poor and marginalized in rural communities of Ghana where the government has no or limited facilities. Presently, CHAG has presence in 177 out of the 216 districts in the country. With about 16,000 workers CHAG is noted for delivery of quality and compassionate health services. Generally, CHAG harmonizes its objectives with the Health Sector Policy Objectives and Strategies and supports the achievement of national health outcomes as specified in the Health Sector Medium-Term Development Plan.

This is a report on the implementation and progress made with the MAF programme for CHAG for the year 2016. As an implementing partner and an agency of the MOH, CHAG received funding to implement the priority areas agreed on for MOH agencies. The CHAG MAF programme consisted of three areas; training in agreed areas, equipment for

Emergency Obstetrics and Neonatal Care (EmONC) and special initiatives.

### Targets

The overall goal of the programme was to “attain 100 days free of maternal mortality in 71 CHAG hospitals”. Within four cycles 100 days (spanning a year) it was envisaged that institutional maternal mortality rate would have reduced significantly.

### Programme content

The CHAG MAF programme consisted of three areas; training in agreed areas, equipment for Emergency Obstetrics and Neonatal Care (EmONC) and special initiatives

### Training approach

CHAG adopted two approaches for training; field training and collaborative networking meetings. The field training involved the use of mentors who are obstetrician/gynaecologists and midwives for practical onsite training. The trainings were conducted in family planning, obstetric surgeries, Life Saving Skills (LSS), Essential New Born Care (ENBC), CTG and Ultrasound Scan. In all, 71 hospitals and 210 clinics participated in this program.

### Targets of the agreed priority areas indicated in the table below:

S/N	Priority Area	Description	Target	Comment
1	FP 6 - Family Planning	Train of CHNS and Midwives to insert implants	60	The 30 were to be trainer of trainers
2	EmONC 4 – Life Saving Skills (LSS)	Train midwives in revised LSS	355	
3	EmONC 5 – Surgery	Train Doctors in obstetric surgeries	71	
4	EmONC 12 – death audit	Train facility based maternal health and death audit teams on revised guidelines.	64	
5	EmONC 16 - ENBC	Train health workers in ENBC, including neonatal resuscitation, kangaroo mother care	240	
6	SD – Ultrasound scan	Train staff on the use of CTGs and Ultrasound scan machines	142	Field and group training
7	EmONC 9 – support visits	Conduct specialist support visits to lower level facilities and underserved areas	71 visits	This would be used for training
8	Cross-cutting	Conduct BCC on maternal health & Family Planning		Facility-led activity

## Equipment for emergency obstetrics and neonatal care

Realizing that work cannot be carried out without appropriate tools, CHAG applied part of its MAF funds to obtain essential equipment for EmONC, including CTG machines, electronic Foetal Doppler machines and ventilation/ ambu-bags for all its facilities.

## Innovative approaches

CHAG introduced three innovations. These innovations included the creation social media platform for knowledge sharing and skill transfer; mentorship programme where hospital teams were assigned to obstetrician / gynaecologists and midwives (mentors) with the aim of improving maternal and fetal outcomes. The third approach was a “100-Days Free of Maternal Mortality Campaign”. In this campaign, all hospitals within the network aimed at recording zero maternal mortality in 100 days. Through these innovations about 355 health professionals had access to knowledge and skill to help manage difficult maternal health issues and about 71 hospital teams were mentored by obstetrician / gynaecologists and midwives.

## Summary Results

During the first 100 days of the free maternal mortality campaign, 83.3% of all the CHAG hospitals recorded no maternal mortality. Institutional Maternal mortality ratio reduced from 230/100,000 live births in the first quarter when the program was introduced, to 135/100,000 live births at the end of the year. Year on year, there was reduction from 145 per 100,000 live births in 2015 to 135 per 100,000 live births at the end of 2016.

Artificial Family planning acceptor rates (specifically implant insertion) increased from 65 per 1,000 in 2015 to 205 per 1,000 PNC registrants in 2016.

Equipment: 284 facilities were given tools including ventilation bags for emergency obstetrics and neonatal care. Thirty-four (34) hospitals were given electronic foetal Doppler machines while fifty-two (52) facilities were given CTG machines. These equipment in no small way contributed to the reduction in maternal and neonatal mortality rates.

Regarding the eight priority areas for training, the following were achieved:

1. About 51 doctors trained in obstetric surgeries
2. Two hundred and ninety-two (292) midwives, staff nurses, doctors and community health nurses in life saving skills
3. Three hundred and one (301) Midwives and Staff Nurses were trained in ENBC including kangaroo mother care
4. One hundred and four (104) midwives and staff nurses were trained in obstetric ultrasound scan and CTG machines
5. Fifty-eight (58) Health workers including doctors, nurses, midwives and hospital administrators were trained in maternal health and death audit

MAF Implementation at Glance	
Collaborative networking	<ul style="list-style-type: none"> <li>• 71 hospitals participated in our collaborative networking programme</li> <li>• 83.3% these facilities recorded zero maternal mortality in 100 days</li> </ul>
Essential New Born Care (ENBC)	<ul style="list-style-type: none"> <li>• Our target – train 240 midwives and CHNs</li> <li>• Those we trained - 301 midwives, CHNs and staff nurses</li> <li>• What we achieved - 125.4%</li> </ul>
Life Saving Skills Training	<ul style="list-style-type: none"> <li>• Our target – train 355 midwives and staff nurses</li> <li>• Those we trained - 292 midwives, CHNs, doctors and staff nurses</li> <li>• What we achieved – 82.3%</li> </ul>
Ultrasound Scan training	Our target – train 142 midwives Those we trained - 104 midwives, staff nurses, and Medical Assistants What we achieved – 73.2%
Supply of Equipment for EmONC	CHAG obtained and supplied the following equipment for emergency obstetric and neonatal care; CTG machines -52;Electronic foetal Doppler machines -34;andVentilation bags- 508
Mentorship Programme	23 Obstetrician/Gynaecologists and midwives signed on to CHAG's mentorship programme. Each of them was assigned 4-6 mentee facilities. Together they have done 149 visits to CHAG hospitals

## PLANNED ACTIVITIES

In line with an agreed programme of work by the MOH, Development Partners (DPs) and other agencies, CHAG was to implement the MAF program in the following broad areas:

1. Family Planning – train CHNs and Midwives to insert implants
2. Emergency Obstetric and Neonatal Care (EmONC)
  - EmONC 4 - Train midwives in revised LSS
  - EmONC 5 - Train doctors in obstetric surgery
  - EmONC 12 - Train facility based maternal health and death audit teams on revised guidelines.
  - EmONC 16 - Train health workers in ENBC, including neonatal resuscitation, kangaroo mother care
  - SD – Train staff on the use of CTG and ultrasound machines
3. Service Delivery
  - EmONC 9 - Conduct specialist support visits to lower level facilities and underserved areas
  - Cross-cutting areas including health education on maternal health, FP/MCH and Adolescent Reproductive and Sexual Health

To enhance outputs for the outlined activities a fourth domain was added;

4. Provision of equipment - for emergency obstetric and neonatal care.

## STRATEGIES

To achieve the above goal and targets, the following strategies and innovative approaches were used;

1. Collaborative networking
2. 100 Days Free from Maternal Mortality Campaign
3. Mentorship
4. Technology / social media to improve maternal health

## IMPLEMENTATION

To execute the strategies agreed on, a 5-member committee was constituted to plan and oversee the implementation. The committee members who had rich and varied experiences in programme implementation and public health, were selected from various Church Health Coordinating Units (CHCUs) and CHAG secretariat. The members were:

- Mr. Alex Ofori-Mensah; Technical Advisor, Health Financing and Technology, CHAG Secretariat – Administrative Head
- Samuel B. Nugblega, Technical Advisor, Leadership, Governance & Leadership, CHAG secretariat
- Mr. Enoch Osafo; Director, Methodist Health Services

- Dr. Ernest Asiedu, Director of Institutional Care, National Catholic Health Services (NCHS)
- Dr. James Duah; Medical Superintendent, the King's Medical Centre (now Deputy Executive Director, CHAG) – Technical Lead  
The committee met several times, planning and reviewing the status of implementation. Hospitals and Clinics within the CHAG network were zoned into four for ease of implementation, supervision and training. Within each zone, there are 15-20 hospitals that form a collaborative network. These zones were:
  - Tamale zone – the comprised 20 hospitals from the Northern, Brong Ahafo, Upper East and Upper West regions
  - Ho Zone – comprised 16 hospitals from Volta and Eastern regions
  - Kumasi zone – comprised 20 hospitals in the Ashanti region
  - Winneba Zone – comprised 15 hospitals in the Greater Accra, Central, and Western regions

Different strategies were used in executing the planned areas. The sections below explain the goal, targets, objectives, different strategies used and the results achieved.

## COLLABORATIVE NETWORKING

CHAG established a collaborative network of 74 hospitals for knowledge and skill sharing, hands-on training in life saving skills, essential newborn-care (ENBC), Quality Improvement processes and maternal health/death audit using the new guidelines. Each hospital formed a team of five persons. These hospital teams in each of the four zones came together every 100 days. Each hospital team consisted of a team of five persons made up of the following categories of people:

1. A doctor in charge of maternity unit,
2. One midwife in delivery room
3. One Public Health Nurse or Community Health Nurse (CHN),
4. One Nurse in charge of Emergency unit and
5. A representative from management.

In addition to the functions of enumerated above, the collaborative networks were to be used as a platform for sharing best practices, identification of systems where maternal deaths occur, problem analysis and providing solutions that lead to the prevention of avoidable institutional maternal deaths in .

It was necessary to use the collaborative networking as an alternate approach because most of the WHO recommended essential and evidence-based interventions to reduce maternal deaths had been used by facilities yet with same results – no improvement in maternal death situation.

These interventions include folic acid, iron and calcium supplementation, intermittent preventive treatment for malaria, tetanus and STD prevention, syphilis screening and treatment,

low dose aspirin for the prevention of pre-eclampsia etc.

Every 100 days, all hospital teams in each zone met with a total of 3 meetings for the year in review. The first meeting was to identify systems and problems that led to maternal mortality in their respective institutions. Fish-bone approach was used in doing root cause analysis. Each facility brought data on the number and causes of maternal deaths for the period 2012 to 2015, stock out days for medicines on the essential medicines list (EML) for review and discussion. These aided in the system and problem analyses. Based on identified problems, each facility team developed a charter (goals) to reduce maternal mortality. Again, based on the charter identified problems, each facility proposed contextual solutions to achieve the collective aim of zero maternal mortality in 100 days. The meetings were led by experienced obstetrician / gynaecologists, midwives and hospital administrators. These facilitators led the discussions for different sections of the program. The obstetrician/gynecologists taught the technical sections including Lifesaving skills, ENBC, maternal death audits etc.

## MENTORSHIP PROGRAM

Each hospital team was assigned an obstetrician / gynaecologist and one experienced midwife. Within the 100 days, the two mentors would visit each facility team between 1-2 times for the following purposes;

- Discuss progress of the charter they had developed
- Train the team in assigned areas including obstetric surgeries, ultrasound scanning, CTG
- Help solve potential challenges relating to maternal health

Besides the facility visits, hospital teams had access to the mentors' telephone numbers which they could call anytime there was a challenge. Identifying that most maternal mortalities occur in the teaching hospitals, one mentor from each of the teaching hospitals except KBTH, was included in the mentorship program to ensure that referrals from CHAG to these teaching hospitals were smooth and without delays. We observed that mentors, including those from the teaching hospitals went to mentee facilities to conduct surgeries during emergency situations.

## TECHNOLOGY TO IMPROVE MATERNAL HEALTH

Social media platforms (WhatsApp groups) were created for the various zones for the transfer of knowledge, skill and support to reduce maternal mortality. Members on the platform include team members from health facilities, mentors, implementation committee members and facilitators. Real time information are shared solicit for support whenever needed. These WhatsApp platforms have been very instrumental in the attainment of the goals set by the

various hospital teams. Facilities have gained knowledge and real-time support during emergencies situations.

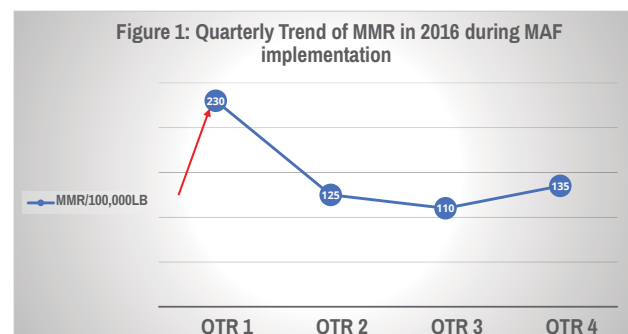
The use of the platform has allowed mentors to move to facilities to help save emergencies situations including repair of ruptured uterus and preparing blood to save women with postpartum haemorrhages.

## RESULTS

### Maternal mortality, Stillbirths, Supervised deliveries

As outcomes, the CHAG network observed a downward trend on maternal mortality, reduced stillbirth rate and increased supervised deliveries during the programme. From institutional maternal mortality ratio of 230 per 100,000 live births at the beginning of the year when the program started, it reduced to 145/100,000 then to 135/100,000 live births in the last quarter of the programme. The graph below shows the trend of maternal mortality during the implementation.

Annual institutional MMR declined by 24.8% in the CHAG network from 145 maternal deaths per 100,000 live births in 2015, to 109 per 100,000 live births in 2016 as shown in figure 2 below. Supervised deliveries also increased by 24% with 136,669 deliveries in 2016 compared to 110,228 in 2015 as shown in table 2 below. There was marginal reduction of 4.8% in Stillbirth rate with 20 per 1,000 in 2016 compared to 21 per



1,000 live births in 2015. While maternal mortality improved, neonatal mortality rate worsened from 6.5 per 1,000 live births in 2015 to 13 per 1,000 live births in 2016. The rise could be attributed to improved data collection and high utilization of postnatal services by mothers.

Lots of the facilities involved in the 100 Days Campaign embarked on community durbars and radio education on maternal health services. These activities may have increased utilization as was observed with the increased supervised deliveries

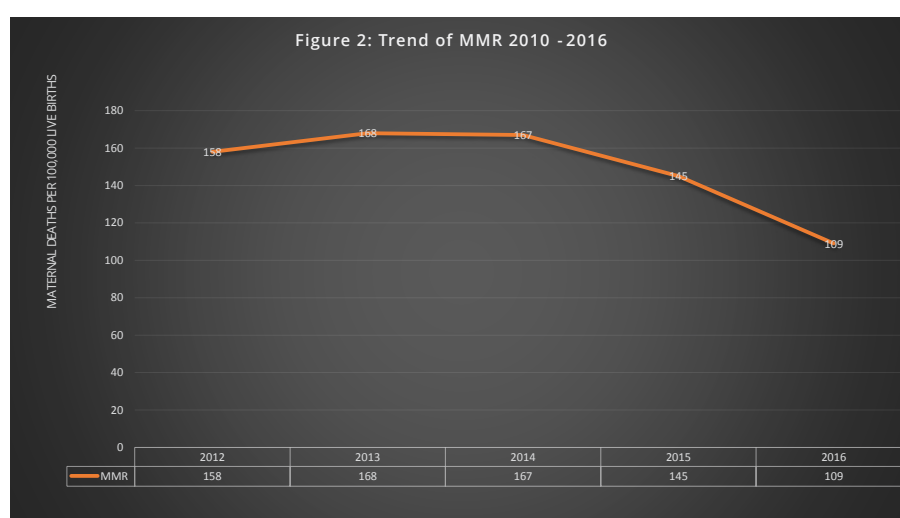
## 100 DAYS-FREE OF MATERNAL MORTALITY CAMPAIGN

During the collaborative sessions with "100 days free from maternal mortality" campaign, 80.3% of hospitals that participated in the program achieved zero maternal mortality. The performance for the first 100 days within the various zones is shown in the **table 1**. below.

Table 1: Percentage of hospitals recording no maternal mortality in the different zones

Zone	% of hospitals with zero mortality in 100 days	Comments
Accra (GR, CR, WR)	73.3	Only 4 hospitals out of 15 recorded deaths
Kumasi (ASR)	93.8%	The only death was recorded on the 99 <sup>th</sup> day
Ho (ER, VR)	75%	4 out of 16 recorded deaths
Tamale (BA, NR, UWR, UER)	78.5%	Only 2 out of 14 recorded deaths

The performance is expected to improve with the subsequent cycles of the 100 days.



Outcome Indicator	Year					% Change 2015 - 2016	One-year performance	% Change 2012 - 2016	5-Year performance 2012 - 2016
	2012	2013	2014	2015	2016				
Maternal Mortality Rate	158	168	167	145	109	-24.8%	Improved	-31.0%	Improved
Supervised Deliveries	114,205	117,313	119,141	110,228	136,669	24.0%	Improved	19.7%	Increased
Neonatal Mortality Rate	5.5	7.1	9.8	6.5	13	100%	Worsened	136.4%	Worsened
Still Births Rate	26	24	21	21	20	-4.8%	Improved	-23.1%	Improved
Caesarean section deliveries	17,839	19,284	20,779	21,834	25,612	17.3%	Increased	43.6%	Significantly increased
Caesarean section delivery Rate	15.6%	16.40%	17.40%	19.8%	19.0%	4.0%	Improved	21.8%	Worsened

While maternal mortality improved, neonatal mortality rate worsened from 6.5 per 1,000 live births in 2015 to 13 per 1,000 live births in 2016

## PROGRESS AGAINST PLAN

This section describes priority areas, highlighting on achievements against set targets.

### Family Planning

The strategy was to train trainer of trainers (ToTs) to train 60 CHNs and midwives.

Target: 60 CHNs and Midwives

Achievement: 27 CHNs and Midwives trained as ToTs. Together, they trained 116 (193.3%) midwives and CHNs in the non-Catholic CHAG institutions

### EmONC 4 – Life Saving Skills (LSS)

Training in LSS were principally done during the collaborative meetings and also on the field by mentors during supportive supervisory visits.

Target: 355 midwives and Staff Nurses

Achievement: 292 (82.3%) midwives, Staff Nurses, Medical Doctors. These categories were trained because in some facilities there are insufficient midwives and so some staff nurses conduct deliveries.

### EmONC 5 – Training in Obstetric Surgery

The training in obstetric surgeries were done on the field by mentors assigned to specific institutions.

Target: 71 doctors

Achievement: 51 (71.8%) doctors trained

### EmONC 12 – Train Hospital teams in maternal death audit using the new guidelines

The strategy here was to train the hospital teams which comprised doctors in charge of maternity, midwives, hospital administrator, staff nurses and CHNs.

Target: 64 teams

Achievement: 58 (90.6%) teams trained. Additional ten (10) teams had been trained during the 2015 MAF program.

### EmONC 16 – train health workers in ENBC, including neonatal resuscitation and kangaroo mother care

This type of training was done by the various church coordinating units for their staff. Those from smaller coordinating units were trained by the CHAG secretariat.

Target: 240 health workers

Achievement: 301 (125.4%)

### Train staff in the use of CTG and Ultrasound scanning

The secretariat procured 52 CTG machines for 52 hospitals within the network. Training in the use of these machines and ultrasound scanning were done in Sunyani.

Target: 142

Achievement: 104 (73.2%)

Aside the training in CTG and ultrasound scanning, the staff were also trained in the use of electronic foetal Doppler machines and artificial ventilation with ambu-bags.

### EmONC 9 – specialist support visits to underserved facilities

This programme was tied to the mentorship programme where about 23 obstetrician/ gynaecologists were each assigned between 4-6 facilities to mentor. They visited, supervised, trained and provided support aimed at addressing maternal mortality in the various institutions they were assigned. They also provided real-time support via social media to those that needed such support. Aside the group training, the mentors trained staff on the field in LSS, ENBC and obstetric surgeries. They also assessed progress made with the charter each facility developed during the collaborative meetings and offered support where needed.

Target: 71 visits

Achievement: 145 visits

Comment: it was observed that most facilities have outdated and some broken down equipment which need to be replaced.

### EmONC 5 – Train Doctors in obstetric surgeries

Doctors were trained in obstetric surgeries by mentors during their field visits. The common areas trained were Caesarean sections, emergency sub-total hysterectomy, and salpingectomy.

Target: 71 doctors

Achievement: 51 doctors (71.83%)

### Cross-cutting issues: conduct BCC on maternal health and family planning

Several community engagements were done at the community level by the various health facilities based on the problems identified in relation to maternal mortality. In BA and Volta region, a major focus was on blood and blood products. Social media campaigns were also launched in relation with maternal mortality.

CHAG released part of the MAF funds to the coordinators and facilities to carry out their planned activities and BCC.

## OBSERVATIONS

We observed that generally facilities may follow agreed interventions for maternal mortality but it takes a little more than just implementing interventions to reduce maternal mortality. These WhatsApp platforms created during the implementation of the MAF program in the CHAG network have been very instrumental in the attainment of the goals set by the various hospital teams. Facility teams have gained



knowledge, skill, and real-time support during emergencies situations through the use of social media and technology.

The power of partnerships was harnessed when obstetricians/ gynaecologists and midwives outside of the CHAG network (specifically from the three Teaching Hospitals) were brought on board this programme. It made referrals to TTH, CCTH and KATH seamless and thus reduced avoidable deaths.

We learned of the commitment and voluntary accountability our workers showed in reducing maternal mortality because of the networking. People were eager to see they were not recording maternal deaths, and for that they were willing to go at all lengths to achieve so. Such commitment and accountability were demonstrated by the a number of staff who donated their blood to safe 0-negative blood women and also by doctors who drove their cars to other facilities to assist in obstetric surgeries to safe mothers.

## CONCLUSIONS

The MAF program has allowed CHAG to build the capacity of various categories of its workers in priority areas for emergency obstetric and neonatal care. These areas include obstetric surgeries, ultrasound scan, essential newborn care and life saving skills. Members have acquired basic equipment necessary for emergency obstetrics and neonatal care. The program also allowed the development of innovative approaches to solving maternal death problems with the social media platform/technology for health and the collaborative meetings.

The programme's 100 days free of maternal death concept has been embraced by the rank and file of the CMIs. The program has helped reduce institutional maternal mortality from 145 per 100,000 live births to 135 per 100,000 live births. It has also allowed sharing of knowledge and skill via technology and networking. There is the need to build on the gains made through this programme to further reduce maternal mortality and neonatal deaths. There is the need to continue funding this program.

It is possible to achieve zero maternal mortality if the principles of responsive voluntary accountability are institutionalized as in this case

## RECOMMENDATIONS

The following recommendations are made:

1. The programme needs to continue in order to sustain the gains made within the CHAG network regarding maternal mortality.
2. The next phase of the MAF program (and or SDG) related to maternal and child health should invest in equipment, particularly anaesthetic machines, ultrasound and incubators for facilities in remote areas that lack these types of equipment.
3. Support visits through the mentorship program are a great way to reduce maternal mortality. For that matter, efforts should be made to secure funding to maintain these visits beyond the MAF program. It is a great way to share the skills and knowledge of the few specialists within the network

## Acknowledgement

CHAG implemented this project through the support of the Ministry of Health (MOH), Danish International Development Agency (DANIDA) and the European Union (EU). The Board of trustees and entire membership is grateful for the immense support that has facilitated the provision of service delivery to mitigate maternal mortality in Ghana.

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# CHILDREN'S MEDICINES



## WHAT ESSENTIAL MEDICINES FOR CHILDREN ARE ON THE SHELF?

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### OBJECTIVE

To document the inclusion of key medicines for children in national essential medicines lists (EMLs) and standard treatment guidelines, and to assess the availability and cost of these medicines in 14 countries in central Africa.

### METHODS

Surveys were conducted in 12 public and private sector medicine outlets in each country's capital city. Data were collected on medicine availability on the survey day and on the cost to the patient of the lowest priced medicine in stock.

### FINDINGS

The proportion of survey medicines in national EMLs ranged from 50% to 90%. In only three countries were more than 50% of such medicines available from central medical stores (range: 15–75%). Availability in nongovernmental organization stores was not consistently better (range: 10–65%) but tended to be higher in teaching hospitals, although the range was similar (15–70%). District hospitals (range: 10–80%) had slightly better availability than teaching hospitals, while primary health care clinics generally had poorer availability (range: 18–48%). Retail or private pharmacies tended to have more survey medicines available (range: 38–62%). There was considerable variability in prices, which tended to be higher in retail pharmacies.

### CONCLUSION

The availability of key essential medicines for children was poor. Better understanding of the supply systems in the countries studied and of the pattern of demand for medicines is needed before improvements can be made. Medicines must be available, affordable and acceptable to patients. Substantial progress towards Millennium Development Goals will not occur without a major effort to improve access to medicines for children.

### INTRODUCTION

In 2006, an estimated 9.7 million children under the age of 5 years died,<sup>1</sup> a figure that represents a slight decline in the global death rate from 2000–03.<sup>2</sup> The major causes of death have been clearly defined as pneumonia, diarrhoea, malaria, neonatal pneumonia and sepsis, disease entities for which effective treatments are known. However, many

interventions are unavailable or in limited supply in resource-poor settings. In a review of progress towards UN Millennium Development Goal 4 for reducing child mortality that was carried out in 2006, no data were available to describe the coverage or availability of antibiotic treatment for pneumonia, an intervention said to be relevant to 60 countries.<sup>3</sup> Data on the availability of oral rehydration therapy and antimalarials were available for 50 and 31 countries, respectively.

Even where a medicine is available, the cost to patients or their families may make it unaffordable. Comparisons made using the Management Sciences for Health's International drug price indicator guide<sup>4</sup> show that the prices of antiretroviral medicines in children's formulations are two to eight times those of adult equivalents. For asthma, a chronic disease, metered-dose inhalers are substantially more expensive than less-effective oral forms of the same medicine. In the absence of detailed information about the prices of such medicines, it is difficult to recommend appropriate policy interventions to improve access and availability.

Recognizing that better access to medicines is a prerequisite for improving health outcomes in children, in May 2007 the World Health Assembly passed Resolution WHA60.20, which identified key steps for ensuring better medicines for children.<sup>5</sup>

Resolution WHA60.20 urges the 193 WHO Member States:

*to promote access to essential medicines for children through inclusion, as appropriate, of those medicines in national medicine lists, procurement and reimbursement schemes, and to devise measures to monitor prices.*

Given the paucity of data on the availability and cost to the patient of paediatric medicines in different health-care settings, the objectives of this study were to document the extent to which key children's medicines are currently included in national essential medicine lists (EMLs) and standard treatment guidelines, to assess the availability of key children's medicines in public and private health-care facilities and to estimate the costs of these medicines to patients in a sample of countries in central Africa. Countries included in the study were selected because they had a WHO medicines adviser (a national professional officer) able to coordinate and conduct the surveys. All 14 participating countries were in the WHO African Region and comprised Cameroon, Chad, the Congo, the Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Mali, Nigeria, Rwanda, Senegal, Uganda, the United Republic of Tanzania and Zambia.

## METHODS

The survey covered 17 different medicines in 20 dosage forms suitable for children. They were identified by an expert group of clinicians and pharmacists and included medicines for priority diseases. The medicines and their indications are listed in Table 1. Thirteen of the items surveyed were included in the 15th WHO model list of essential medicines<sup>6</sup> in the exact dosage form and strength specified in this survey, while an additional two were included in the WHO list at a different strength. Another three were included in the First WHO model list of essential medicines for children.<sup>7</sup> The survey list was refined in discussions with national professional officers from participating countries during a workshop. Survey data collectors reported whether the selected medicines were included in national EMLs and standard treatment guidelines and detailed the availability and cost of the medicines in several health-care facilities and medicine outlets in both the public and private sector.

The methods for selecting public and private health-care facilities for inclusion in the survey were based on those used in pricing surveys carried out by the WHO and Health Action International.<sup>8</sup> In this study, data collection was limited to capital cities only. Twelve facilities were surveyed in each country: the central medical store (CMS), one nongovernmental organization (NGO) store, one teaching hospital, one district hospital, three primary health care clinics and five private or retail pharmacies.

In each country, data collection was overseen and verified by the national professional officer. In four countries, national professional officers either carried out or contributed to data collection, while in another four data collection was undertaken by two individuals in each health-care facility. Most survey forms were completed by health professionals with a pharmacy, medical or academic (i.e. doctoral or professorial) qualification. In all but one country, the forms were completed by three or fewer individuals. While we did not undertake systematic verification of the data, the fact that small number of trained health professionals were usually involved makes it likely that the reported data accurately reflect the situation within the selected health-care facilities.

For each facility, the survey documented whether each medicine was available on the day of the survey and, if it was, the cost to the patient of the lowest priced product available, whether branded or generic, depending on the stock. Costs were reported in the local currency and later converted to United States dollars. Where data were collected from more than one facility of a particular type, the average for those facilities was used in comparisons. Statistical analysis was descriptive only.

The research ethics committees of the WHO and the University of Newcastle in Australia judged that the study protocol did not require approval by an institutional ethics committee, as the project satisfied the relevant criteria for an audit.

Medicine	Dosage form	Indication in WHO treatment guidelines
<b>Albendazole</b>	<b>Chewable tablet, 200 mg</b>	<b>Helminthiasis</b>
Albendazole <sup>a</sup>	Suspension, 100 mg/5 ml	Helminthiasis
Amoxicillin <sup>b</sup>	Suspension, 125 mg/5 ml	Infections including pneumonia
Artemether plus lumefantrine	Tablet, 20 mg + 120 mg	Malaria
Beclometasone	Inhaler, 50 µg/dose	Asthma
Ceftriaxone <sup>b</sup>	Injection, 1-g vial	Severe infections, including meningitis
Ceftriaxone	Injection, 250-mg vial	Severe infections, including meningitis
Co-trimoxazole <sup>b</sup>	Suspension, 200 mg + 40 mg/5 ml	Pneumonia or prophylaxis of <i>Pneumocystis jiroveci</i> pneumonia
Isoniazid	Tablet, 100 mg	Tuberculosis
Mebendazole <sup>b</sup>	Chewable tablet, 100 mg	Helminthiasis
Mebendazole <sup>a</sup>	Syrup, 100 mg/5 ml	Helminthiasis
Nevirapine	Syrup, 50 mg/5 ml	HIV infection
Nystatin <sup>a,b</sup>	Drops, 100 000 IU/ml	Oral candidiasis
Oral rehydration salts <sup>b</sup>	Packet	Diarrhoea
Paracetamol <sup>b</sup>	Syrup, 120 mg/5 ml	Pain
Rifampicin <sup>a</sup>	Syrup, 100 mg/5 ml	Tuberculosis
Salbutamol <sup>b</sup>	Inhaler, 100 µg/dose	Asthma
Vitamin A <sup>b</sup>	Capsules, 100 000 IU (30 mg)	Prophylaxis
Vitamin A <sup>a</sup>	Liquid preparation, 50 000 IU/ml	Prophylaxis
Zinc <sup>b</sup>	Tablet, 20 mg dispersible	Diarrhoea

<sup>a</sup> Not included in the WHO model list of essential medicines, 15th list, March 2007.<sup>6</sup>

<sup>b</sup> Included in the subanalysis of 10 key medicines for children discussed in the text.

## RESULTS

Data collected between May and June 2007 were received from all 14 countries. Eight provided results for all 12 facilities, two for 11 facilities (in one no NGO store was surveyed) and one for seven facilities (where there was no private pharmacy). The remaining three countries provided data from more than 12 facilities, which included results from additional public and private sector outlets.

### EMLs and standard treatment guidelines

The proportion of the 20 survey medicines included in national EMLs ranged from 50–90% (Fig. 1). In four countries there was a match between medicines included in the national EML and those included in standard treatment guidelines; in three, more of the survey medicines were included in standard treatment guidelines than in the EML. In the remaining seven countries, some medicines in the EML were not included in local standard treatment guidelines, but most differences were small.

### CMSs and NGO stores

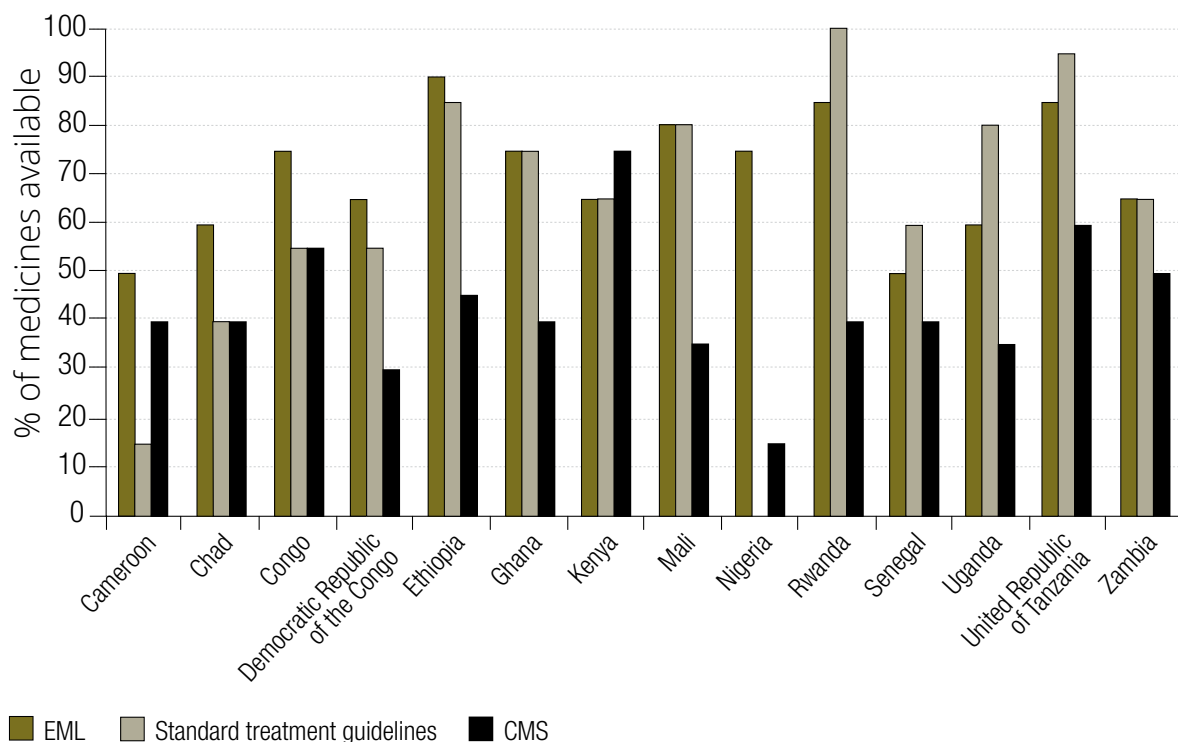
In 13 of the 14 countries, the proportion of survey medicines available in the CMS was smaller than the proportion listed in the national EML. In only three countries were more than 50% of the medicines available in the CMS at the time of the survey

(Fig. 1). The availability in NGO stores was not consistently better than in CMSs: the range in NGO stores was 10–65% and in CMSs, 15–75%.

The medicines that were most frequently available in CMSs were co-trimoxazole suspension (12 countries), oral rehydration salts (11 countries), paracetamol syrup (10 countries), nevirapine syrup (10 countries), amoxicillin suspension (9 countries), ceftriaxone 1-g injection (9 countries) and salbutamol inhalers (8 countries). The least available survey medicines were rifampicin syrup (0 countries), vitamin A liquid 50 000 IU/ml (0 countries), zinc 20-mg dispersible tablets (1 country), beclometasone inhalers (2 countries) and albendazole suspension (3 countries). While not included in the analysis, spacer devices for use with salbutamol or beclometasone inhalers were available in only one CMS.

In 10 countries, the proportion of medicines that were included in the national EML and that were available in the CMS on the day of the survey was only slightly lower than the proportion of all 20 survey medicines available in the CMS. In four cases, the proportions were the same. These observations indicate that, generally, the CMS stocked those medicines that were identified as essential in that country.

Fig. 1. Proportions of the 20 survey medicines included in the national EML or standard treatment guidelines or available from the CMS, in 14 countries in central Africa<sup>a</sup>



CMS, central medical store; EML, essential medicines list.

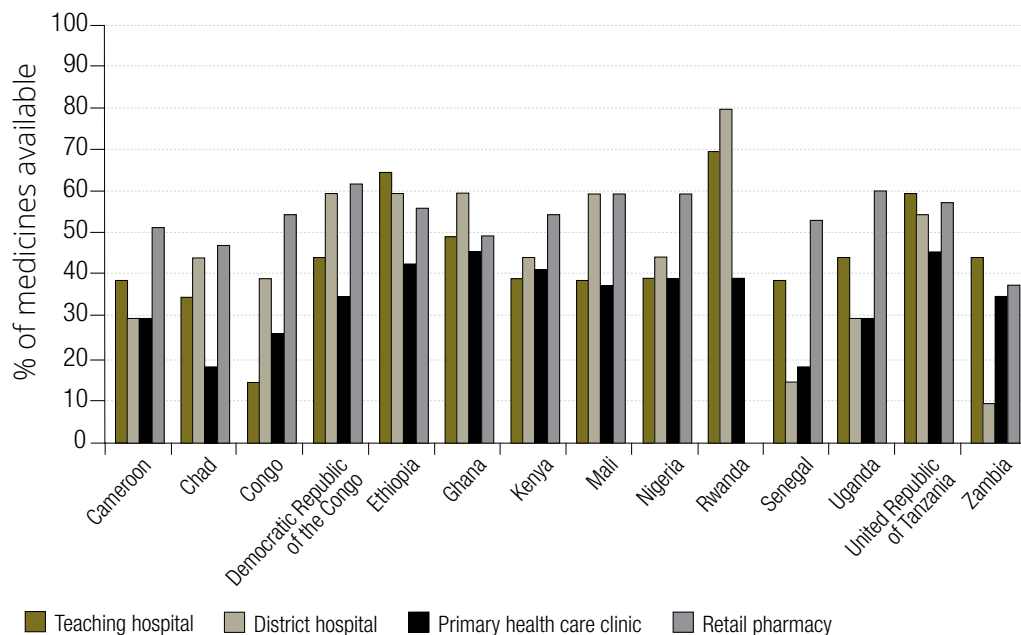
<sup>a</sup> In Nigeria, the standard treatment guidelines were under review and not available for this study.

### Availability by type of health-care facility

The availability of survey medicines tended to be greater in teaching hospitals than in CMSs. In 10 of the 14 teaching hospitals surveyed, the same or a larger proportion of the medicines was available than in the corresponding CMS, though the range of the proportions available was slightly smaller overall for teaching hospitals: the range in teaching hospitals was 15–70%, and in CMSs, 15–75%. Eight of the 14 district hospitals had more survey medicines available

than the corresponding teaching hospital, which may reflect the nature of the medicines included in the study. However, the ranges of the proportions available were similar: 15–70% in teaching hospitals and 10–80% in district hospitals. In primary health care clinics, the availability of medicines was generally lower than in hospital facilities, though the range of the proportions available was much smaller across countries, being 18–48%. Retail and private pharmacies tended to have more of the survey medicines available and there was a narrow range across countries (38–62%) (Fig. 2).

Fig. 2. Proportion of 20 survey medicines available from public and private sector facilities, in 14 countries in central Africa



<sup>a</sup> In Rwanda there were no data for retail pharmacies.

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### Subanalysis of 10 key medicines

To counter possible criticisms that the 20 medicines surveyed included some that were not on the WHO model list of essential medicines, that more than one form of the same drug was included, that anthelmintic medicines were over-represented and that the medicines surveyed included treatments for priority diseases for which the choice of medicine may be influenced by donor programmes or local treatment preferences, a separate analysis of a subset of 10 key medicines was undertaken (data not shown). The 10 medicines included were: amoxicillin, ceftriaxone (1-g injection), co-trimoxazole, mebendazole tablets, nystatin, oral rehydration salts, paracetamol, salbutamol, vitamin A capsules and zinc. The findings were consistent with those obtained using the larger data set: in general, fewer medicines were available in CMSs than listed in EMLs or included in standard treatment guidelines; NGO stores were not consistently better stocked; primary health care clinics

had fewer medicines available than either teaching or district hospitals; and private sources of medicine, such as retail pharmacies, generally had more medicines available on the day of the survey than public health-care facilities.

### Cost of medicines

The variability and range of the prices paid by patients for five selected medicines in both the public and private sector across all countries are shown in Table 2. A variability of 1.0 means that the same price was charged in all similar facilities within a country (for example, in all primary health care clinics or retail pharmacies surveyed). A large variability may reflect the availability of only a branded product rather than a cheaper generic equivalent. The range of prices paid by patients varied considerably between countries. The highest prices were not always in private retail pharmacies, although prices tended to be lower in the public sector overall.

**Table 2. Variability in and range of prices paid by patients for five selective children's medicines in the public and private sectors across 14 countries in Central Africa**

Medicine	Variability in prices across countries		Range of prices <sup>b</sup> (USD)	
	Public Sector	Retail pharmacy	Public Sector	Retail pharmacy
Amoxicillin suspension 125 mg/5 ml (100 ml)	1.3–2.6	1.3–2.3	0.44–2.13	0.27–4.16
Ceftriaxone 1-g injection (one vial)	1.1–17.8	1.1–5.3	0.82–26.63	0.54–18.67
Co-trimoxazole suspension 200 mg + 40 mg/5 ml (100 ml)	1.6–3.4	1.1–16.4	0.27–4.16	0.27–5.62
Paracetamol syrup 120 mg/ 5 ml (100 ml)	1.3–3.0	1.0–1.8	0.27–2.71	0.27–2.85
Salbutamol inhaler 100 µg/dose (1 unit)	1.0–2.0	1.0–2.8	1.30–7.25	2.07–7.47

<sup>a</sup> A variability of 1.0 means that the same price was charged in all similar health-care facilities within a country. The variability was calculated when more than one price was provided for public sector facilities. The variability within each country was calculated and the range of the variability across countries is listed in the table.

<sup>b</sup> Range of prices across all countries reporting usable data.

## DISCUSSION

This study is the first significant attempt to collect data on the availability of children's medicines in a number of countries simultaneously. The major strengths of the study are that it was conducted in 14 countries over a similar period of time and that simple data collection methods were used. Practical tools for the ongoing monitoring of medicines within countries must be easy to use and should not involve sophisticated data collection or require extensive training, and surveys should be inexpensive to carry out. Allowing data collection tools to be flexible enough to include local priorities for medicines will increase the relevance and usefulness of the surveys in each country.

The limitations of this study are that each survey included only a single sample from each facility and involved a relatively limited number of facilities in the capital city of each country. However, it is likely that medicine availability in the capital city represents the most optimistic picture of the supply situation within a country, with medicines being less available in more rural areas. Follow-up surveys could include public and private sector medicine outlets in regional and rural areas.

## Availability by type of health-care facility

The key finding of this survey is that, although the majority of medicines evaluated were considered to be essential as indicated by national EMLs and standard treatment guidelines, on average only half were available in the facilities surveyed. Overall, the average proportion of the 20 survey medicines available varied from approximately 35% in primary health care clinics to approximately 50% in private retail pharmacies. Availability was higher in private or retail pharmacies in all countries that reported data on private sector outlets. However, there was substantial variability between countries. In Nigeria, for example, less than 20% of survey medicines were available in the CMS.

Generally the proportion of medicines available was lower in primary health care clinics than in teaching or district hospitals. As the medicines included in the survey were selected because they were common preparations likely to be used in primary care, these observations are concerning and must be confirmed in follow-up surveys.

There was also some variation in the pattern of availability of individual medicines. For example, oral rehydration salts, paracetamol syrup and anti-infectives (e.g. amoxicillin and co-trimoxazole suspensions and injectable ceftriaxone)

were generally available in CMSs. However, this does not ensure the adequate distribution or appropriate use of these medicines. By contrast, the absence of zinc sulfate preparations in both public and private sector outlets is a concern. Clinical trials have established the importance of zinc supplementation for reducing the duration and severity of diarrhoeal illnesses,<sup>9–11</sup> and the absence of palatable and affordable zinc preparations is an ongoing problem.

### Asthma medicines

Salbutamol inhalers were widely available, but spacer devices for their effective use in children were not. Few participating countries reported that instructions for “home-made” spacer devices were routinely supplied. Beclometasone inhalers were rarely reported as available in public sector facilities and, when available in the private sector, they tended to be expensive. These observations raise questions about the management of respiratory illness. Several national professional officers identified oral salbutamol preparations (i.e. syrup and tablets) as additional paediatric medicines that should be monitored in their countries. These oral forms are used rarely in developed countries because of their limited effectiveness.<sup>12,13</sup> Further work is needed to understand local treatment practices and preferences and to identify barriers to the more widespread use of metered-dose inhalers in children.

### Priority diseases

There was considerable variation in the availability of nominated medicines for the priority diseases of HIV infection, tuberculosis and malaria. Nevirapine syrup was fairly widely available, artemether plus lumefantrine and isoniazid tablets were less available, and rifampicin syrup was not available in any of the participating countries. The poor availability of these medicines might indicate that there were problems with the appropriate dosage forms for children. Alternatively, the existence of vertical programmes for these priority diseases may mean that the medicine supply is not coordinated with standard supply chains in these countries. Other authors have commented on the potential inefficiencies that can follow from this form of segmentation in the supply of medicines.<sup>14,15</sup>

### Costs of medicines

The comparisons of costs between public and private sectors were limited in many countries because free medicines were provided by public sector outlets. Moreover, data were only collected when the particular medicine was available, and the price of the cheapest product available was then recorded. Therefore, data were only collected on a small number of medicines in some health-care facilities and did not distinguish between generic and branded products. These limitations restrict the conclusions that can be drawn on the affordability of medicines and the range of prices that patients might be asked to pay. Despite these limitations, considerable variations in prices were reported in both public and private sectors, although the variability tended to be greater and the prices higher in the private sector. This has implications for

the affordability of medicines for children. While in many of the countries surveyed medicines were provided free of charge to children in public sector outlets, where a medicine was only available in private outlets, the cost may preclude access.

### Medicines covered

In this study, medicine availability was determined by the presence of the medicine in the health-care facility on the day of the survey; the medicine may have been present either in the defined strength and pack size or in a different pack size. It is possible that a facility may have stocked medicines that were similar to those on our survey list but were not counted, raising the criticism that our survey unfairly portrayed the availability of children's medicines in a particular country. However, the survey medicines were chosen by an expert panel and were selected because they were all preparations with proven effectiveness and cost-effectiveness in the management of conditions commonly encountered in primary care. That the majority of these medicines were included in the EMLs and standard treatment guidelines of participating countries supports the validity of the choices made. The small number of medicines surveyed might also be seen as a limitation of the study. However, our intention was to demonstrate the utility of a concise, easy-to-use data collection tool that is sufficiently flexible to be adapted to local circumstances.

### CONCLUSION

Access to medicine is a complex construct because medicines not only have to be available, they also have to be affordable and acceptable to patients. Much work remains to be done at the level of individual countries to understand these factors better. There is a need to move beyond simply determining whether a medicine is available in the CMS or other health-care facility towards considering prescribing practices, the relevance and appropriateness of standard treatment guidelines and patient compliance in both accessing and taking the medicines as recommended. However, before questions about the supply of and demand for a particular medicine or practice within specific types of health-care facilities can be addressed, an important first step is to understand what is available in the country and where. From this study, we cannot infer whether poor availability reflects imperfections in purchasing mechanisms or the pattern of demand for medicines within individual countries; that is, whether the poor availability of a medicine determines prescribing practices or whether prescribing practices dictate purchasing patterns. More detailed studies of local prescribing practices are required.

What is clear, however, is that this survey highlights several issues. First, if the availability of these essential medicines for children is as poor as is suggested by the results of this study, we have a lot to do to understand what is happening in the supply systems for medicines in these countries before we can improve them. Second, we need to understand the demand side of the equation, and that includes understanding



the factors that determine prescribing practices and the cost of children's medicines. Finally, given that the medicines studied in this survey are essential for improving mortality, it is clear that we will not make much progress towards Millennium Development Goals without a major effort to improve access to medicines for children.

World Health Assembly Resolution WHA60.20 provides a framework for addressing problems with the availability of and access to children's medicines. Member States need to respond to this resolution. The simple data collection tools used in this study could easily be adapted to local circumstances to facilitate carrying out surveys on the availability and price of medicines for children on a regular basis.

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### **Acknowledgements**

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# ADOLESCENTS GIRLS



## RAPID ASSESSMENT OF HUMAN PAPILOMAVIRUS VACCINATION & ROUTINE VACCINATION KNOWLEDGE ATTITUDES PRACTICES & BELIEFS AMONG LUSAKA RESIDENTS

Authors: Martin Chanda, Dr. Oliver Mweemba, Kenneth Chola and Abel Kalikiti

Zambia has one of the highest cervical cancer rates in the world, with 90 out of every 100,000 women developing the disease. Zambia plans to change this grim reality by immunizing girls between the ages of 9 - 11 against the Human Papilloma Virus Vaccine, which is the main cause of cervical cancer. The Human Papilloma Virus vaccine was introduced in Zambia on 27th May 2013 on a pilot basis in Chongwe, Kafue and Lusaka districts to pave way for scale-up to the rest of the country.

The vaccination programme uses a school-based strategy which targets all girls in grade 4 while out of school girls aged 10 years access the vaccines from health centres and designated community points. The vaccination campaign started in 2014 in Zambia and has steadily progressed and now the country is aiming at conducting the third dose of the HPV vaccination. The HPV Vaccination campaign however encountered a number of challenges some of which were; Poor data management, planning and co-ordination, inadequate financing, social mobilisation, logistics and service delivery.

CHAZ will embark on a HPV 3rd dose Community Mobilisation campaign project to complement government efforts to deliver vaccines in Lusaka District. The initiative proposal intends to scale up community mobilization in order to increase the proportion of girls vaccinated against HPV. The general objective of the study is to conduct a Rapid HPV Vaccination and Routine Immunisation Knowledge, Attitudes, Practices and Beliefs (KAPB) baseline survey. The rapid assessment employed both qualitative and quantitative methods in the data collection and analysis for this study. Churches Health Association of Zambia engaged a consultant to design the data collection tools, train the research assistants, and report writing and dissemination. A total of 420 individual interviews, 2 focus group discussions and 6 key informant interviews were conducted in about 12 health facility catchment areas in Lusaka district.

Immunisation knowledge among respondents was not very high. From the sample talked to, about 27.6% representing 135 respondents, said they did not know what immunisation or vaccination meant. A great number of respondents reported knowing about a number of vaccinations which included Polio, BCG, Tetanus to mention but a few. However, HPV vaccine was the least known vaccine during the study. The individuals sampled for the study depended heavily on the clinic for information on vaccinations. Those indicating that they had sensitisation on cervical cancer almost exclusively from health facilities. The clinics and hospitals accounted for 59 and 14 % respectively.

Different audiences highlighted different preferred sources of information on HPV and HPV vaccinations. For this reason, multi-channel approaches to information dissemination will effectively increase awareness of HPV and the vaccine as well as how young girls can be protected against cervical and other cancers associated with HPV. In addition, there is need to allocate adequate time and resources to inform, sensitise the girls' parents and schools on the vaccination process

### BACKGROUND AND LITERATURE REVIEW

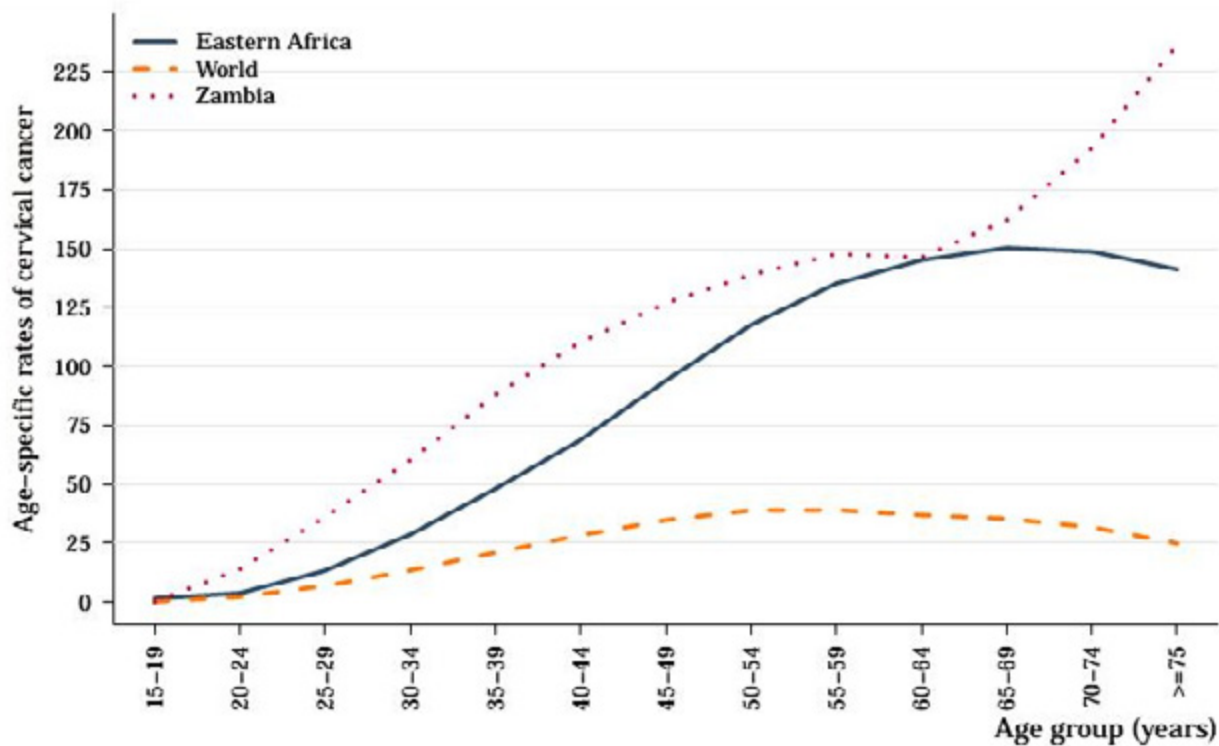
The World Health organization (WHO) estimates that cancer of the cervix was responsible for almost 260 000 deaths in 2005 of which about 80 percent occurred in developing countries (Melissa et al, 2014).

Zambia has one of the highest cervical cancer rates in the world, with 90 out of every 100,000 women developing the disease. Cervical cancer is the most common cancer affecting women in Zambia. Current estimates indicate that every year 1,839 women in Zambia are diagnosed with cervical cancer and 1,276 die from the disease and this represents the number one cause of gynaecological related deaths in all hospitals in Zambia. Cervical cancer ranks as the most frequent cancer among women between 15 and 44 years of age (Bruni L, et al., 2016).

Table 1: Cervical cancer incidence in Zambia (estimations for 2012) (Bruni L, et al., 2016).

	Zambia	Eastern Africa	World
Annual number of new cancer cases	2,330	45,707	527,624
Crude incidence rate <sup>a</sup>	33.7	25.8	15.1
Age-setandardized incidence rate <sup>a</sup>	58.0	42.7	14.0
Cumulative risk (%) at 75 years ald <sup>b</sup>	5.7	4.6	1.4

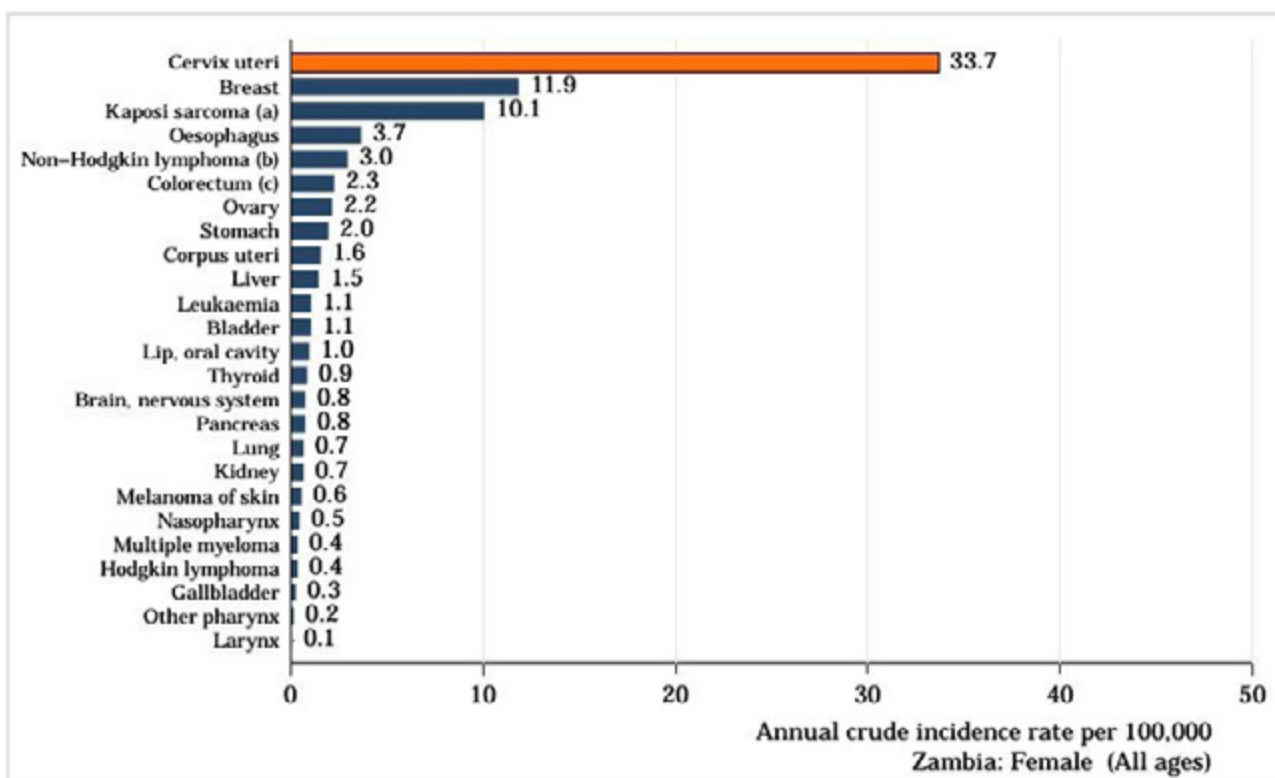
Table 2: Age-specific incidence rates of cervical cancer in Zambia compared to its region and the world (Bruni L, et al., 2016).



Graph 1: Incidence of cervical cancer compared to other cancers in women of all ages in Zambia (estimations for 2012) (Bruni L, et al., 2016).

African countries carry the largest burden of cervical cancer worldwide. Globally, the prevalence of Human PapillomaVirus infection is estimated at 11–12%; however in sub-Saharan Africa (SSA) the estimate is substantially higher at 24%

(Forman et al., 2012). In 2008, world estimates of new cervical cancer cases were 530,000 and 75,000 of these were from Sub Saharan Africa countries, representing almost 15% of the world's burden (Forman et al., 2012).



Zambia plans to change this grim reality by immunizing girls between the ages of 9 - 11 against the Human Papilloma Virus Vaccine, which is the main cause of cervical cancer. The Human Papilloma Virus vaccine was introduced in Zambia on 27th May 2013 on a pilot basis in Chongwe, Kafue and Lusaka districts to pave way for scale-up to the rest of the country. The vaccine protects against strains of HPV that cause approximately 70% of cervical cancer cases and 90% of anogenital wart cases worldwide.

All HPV vaccines target the HPV types that most commonly cause cervical cancer and can cause some cancers of the vulva, vagina, anus, and oropharynx. Two of the vaccines also protect against the HPV types that cause most genital warts. HPV vaccines are highly effective in preventing the targeted HPV types, as well as the most common health problems caused by them. The vaccines are less effective in preventing HPV-related disease in young women who have already been exposed to one or more HPV types. That is because the vaccines prevent HPV before a person is exposed to it. HPV vaccines do not treat existing HPV infections or HPV-associated diseases. Research suggests that vaccine protection is long-lasting. Current studies have followed vaccinated individuals for ten years, and show that there is no evidence of weakened protection over time. The HPV vaccine works extremely well. In the four years after the vaccine was recommended in 2006, the amount of HPV infections in teen girls decreased by 56% (<http://www.cdc.gov>)

The cost is high (approximately \$400 US for a three-series dose) and until recently this presented a significant barrier to implementation within low-resource countries. The Global Alliance for Vaccine Initiatives (GAVI) recently negotiated a \$4.50/dose fee for GAVI-supported countries. At the same time, GAVI announced support for eight projects in African countries that began over 2013–2014 (GAVI, 2013). This is positive as in the past there have been decades of delay between new vaccine production and implementation in developing countries.

The vaccination programme uses a school-based strategy which targets all girls in grade 4 while out of school girls aged 10 years access the vaccines from health centres and designated community points. A total of 50,000 girls in the three districts were targeted to be vaccinated during the initial phase in 2013 and 2014. The vaccination campaign started in 2014 in Zambia and has steadily progressed and now the country is aiming at conducting the third dose of the HPV vaccination. The Immunisation Campaign was successful with 79 percent of the targeted children receiving the vaccine by 2015. The HPV Vaccination campaign however encountered a number of challenges some of which were; Poor data management, planning and co-ordination, inadequate financing, social mobilisation, logistics and service delivery. Inadequate funding resulted in sensitization not being carried out prior to the immunization exercise. Inadequate funds also resulted in limited channels of engaging the community. The campaign was mainly done at health facilities. Women attending antenatal were sensitized on the importance of bringing their children to receive the vaccine.

The low appreciation of the benefits of the HPV Vaccine led to some parents refusing to give consent for their children to be vaccinated. Some parents withheld their children from attending classes on the day when the vaccine was being administered. Resistance in vaccinating children against HPV was especially strong in Private schools. Some private schools went as far as denying vaccination teams access.

Another challenge encountered was inadequate information on the number of schools. Many private schools are not registered with the Ministry of Education. In 2013 the Ministry of Education had 505 schools on its records. The HPV vaccination pre campaign mapping on the other hand revealed 823 schools (Bruni L, et al., 2016).

In response to the many challenges that health providers faced, they made the following recommendations:

1. Increase resources for social mobilization;
2. Increase the channels to be used in mobilizing communities to include;
  - o Door to Door Campaigns,
  - Road shows,
  - Focus Group discussions, o Radio and Television
  - Public Address Systems

Before the above recommendations can be implemented, there was need to understand the knowledge, attitudes, practices and beliefs about the Huma Papillomavirus and the HPV vaccine. Health behaviors are conceptually complex and a number of frameworks have been used for their explanation. To help address the challenges faced on social mobilisation and improve the acceptability and uptake of the HPV vaccine, this study used the Health Belief Model(HBM). The HBM predicts that an individual's health behavior will depend on the value placed on achieving a goal and the belief that a certain behavior will achieve that goal. The model includes aspects of perceived likelihood (individual susceptibility), perceived severity, and perceived effectiveness and benefits. There are also cues to action (external or internal stimuli) and perceived barriers to action. The HBM has previously been used to understand vaccination and cervical cancer screening behaviors (Allen et al., 2010). In this study, in addition to these five constructs, HPV vaccine-related awareness and knowledge and other modifying factors affecting vaccine uptake and acceptability were reviewed.

The results of this study, are to inform the development of information packages and appropriate as well as preferred communication channels.

## RATIONALE OF THE STUDY

CHAZ will embark on a HPV 3rd dose Community Mobilisation campaign project to complement government efforts to deliver vaccines in Lusaka District. The initiative proposal intends to scale up community mobilization in order to increase the proportion of girls vaccinated against HPV. CHAZ is working with other partners on behalf of Ministry of Health.

## OBJECTIVES OF THE ASSIGNMENT

The general objective of the study is to conduct a Rapid HPV Vaccination and Routine Immunisation Knowledge, Attitudes, Practices and Beliefs (KAPB) baseline survey

The following are the specific objectives of the study:

- Identify HPV knowledge gaps
- Identify barriers to HPV vaccine uptake
- Identify stimuli (internal & external) to HPV awareness and vaccine uptake
- Develop appropriate information packages for the different stakeholders
- Identify appropriate messaging channels

## METHODOLOGY AND APPROACH

The rapid assessment employed both qualitative and quantitative methods in the data collection and analysis for this study. Churches Health Association of Zambia engaged a consultant to design the data collection tools, train the research assistants, and report writing and dissemination. The assessment was structured to enable representation from all stakeholders; Churches Health Association of Zambia, Ministry of Education and Ministry of Health team members are included.

The Ministry of education participated in the study at the community level through the school that have the targeted age groups. In schools it was the head teacher or the assigned school teacher that will be interviewed. The Ministry of Health also participated at the community level through the health facilities that are in the sampled catchment areas. The facility in-charge or assigned health personnel interviewed as part of the key informants.

### (a). Sample Selection and Procedures

Different sampling approaches were used to pick the samples for assessment. There was Purposive sampling for the Key Informant Interviews (KII) and Focus Group Participants. There was also Interval sampling for the individual parents and guardian participants, then the children where sampled using convenience sampling.

The key informants were picked by virtue of them been in the positions they occupy in the program and partners network. The school managers, Health facilities in-charge, and project staff were sampled purposively and be interviewed. The KII provided policy, program and administrative level information

used to inform implementation strategies and how those have contributed positively or negatively to overall community mobilisation activity. One person from the sampled health facility was interviewed and from the nearest primary, school manager was sampled and interviewed.

Focus group discussions were conducted among members of the general community from 2 sites. There was two focus group discussions in each of the selected sites, one comprises of the women only and the other men only. This was meant to enhance quality of data to be generated. The participants for FGDs were purposively selected to include men and women who will have potential to contribute rich experiences and perspectives on the HPV vaccine. The groups were composed of individual with similar social backgrounds including age and education.

For the survey, the initial estimation of 420 individual guardians was picked and ensured that the sample size was 95% confidence interval and 5% margin of error. The number sampled was proportionate to the estimated size of the catchment areas. However, all the key stake holders in the selected two communities was interviewed as key informants and their contributions has been taken as part of the data to be analysed and included in this report.

The study used a number of sampling methodologies to recruit respondents to the questionnaires participants. For the respondents to the questionnaire, they were recruited using a combination of sampling methodologies. The respondents to the questionnaire were parents or guardians. The children were also interviewed in the presence of the parents or guardians.

The individual guardians and children were sampled using interval sampling method. The individual guardians were selected from household that were picked using the interval method. The starting point was the Health facility centre, the 10th house on the right hand side of the research assistant was sampled and then every 35th household was sampled and the guardian interviewed. If the first 35th house does not have the right respondent then the next house was not sampled. Then the process was repeated until the required numbers was achieved.

The key informant and FGD participants guide were recruited using purposive sampling. There was sampling of the school managers and health facility in-charges, these are very important in the study as they were informing the baseline the knowledge attitude practice and belief from the highest level at the community.

## RESEARCH INSTRUMENTS AND SAMPLE SIZE

Table 3: Research Instruments and Sample size

No	Methodology			Sample size
1	Quantitative	Individual interview (questionnaire)	In-school girls Out of School girls Guardians	420
2	Qualitative	Key Informant Interviews Focus group discussions	Key personnel Community members	2 groups
3	Qualitative	Key Informant Interviews Interview guide	School managers and Health Facility in- charge	6

### (b). Data Collection

The quantitative data was collected using the SurveyCTO platform. This is a modern online platform that enables the data collection on mobile devices and stored on a cloud server. This ensured timely data analysis and efficient management of the data collection teams. This facilitated the minimal usage of paper during and after data collection.

Data collection was done by well trained and seasoned data collectors. The data collectors are individuals that have a good understanding of data collection and ethics. The data collectors were trained and mentored in using the mobile data collection devices. The Consultants used SurveyCTO Platform for data collection.

### (c). Data collection tools

The development of the data collection tools was guided by literature review of the various project documents. There was also reviewing of various data collection tools that have been used in similar studies in other parts of the world. There was to some extent adaptation of other tools that were used in countries like Kenya, Bangladesh, Uganda and India. In addition, other related documents that were available and useful to inform the overall assessment and eventually survey development were also reviewed. This enabled the clear understanding of the community mobilisation efforts in other parts of the world and also helped in having a local understanding of the number and location of schools and health facilities within Lusaka district.

### (d). Data Analysis

The quantitative data was transferred from the SurveyCTO into Excel for cleaning and finally into SPSS for detailed analysis and final report. The quantitative data that was generated from the questionnaire was checked for consistency and completeness before each questionnaire was registered for inclusion into the data analysis. The checking of the completed tools was done at two levels, while in the field at the end of the day and just before final submission for analysis. Statistical Package for Social

Sciences (SPSS) software was used for data analysis. For further graphical presentation and formatting of the tables and outputs, the data was transferred to Microsoft excel.

Thematic and content analysis was used for data from key informants and focus group discussions. The Nvivo software was used to assist with analysis. Data from Key informants, focus group discussions and individual guardian/ children interviews was analysed and be triangulated to get a comprehensive understanding of knowledge, beliefs, attitudes and practices relating to Human Papillomavirus vaccines.

### (e). Ethical consideration

CHAZ recognizes the sensitivity of the topic and the vulnerability of the targeted population to be interviewed. Therefore, the protocol was submitted for ethical approval to the ethics committee of the ERES Converge IRB. The ethical approval was given and that facilitated the field data collection in the selected catchment areas. This is very important in ensuring the research ethical principles are adhered to by the research team through-out the process. The ethical approval was used as the key to going out in the field.

All members of the research team were trained to meet the highest ethical standards of data collection and analysis throughout the duration of the study. Given the sensitive nature of the enquiry, efforts were made to ensure that respondents were fully aware of the risks and benefits involved in participating in the study and that confidentiality and anonymity was maintained. The perceived risks were that the respondents were to be welcoming strangers in their private spaces (homes). There was also to be a part of interviewing the children as part of the respondents and this was a risk in that the information to be solicited was bordering on sexuality education and some parents may not have been comfortable with that. An informed consent process took place. The consent process included outlining briefly the reasons for the study and the issues and questions to be covered during the interview/discussion.

## MAIN FINDINGS

### (a). Study sites and Population Characteristics

Lusaka District has approximately a total of 187 health facilities. 142 health facilities are privately owned and 42 health facilities are government owned and controlled and finally there are about 3 mission health facilities, this is according to the Ministry of Health 2010 health facility report. From the total number of 42 health facilities, 32 health facilities qualified to be part of the sampling frame for the study. After statistical, accessibility, distance from District health office catchment area population and financial consideration, the survey picked 16 catchment areas. These sites were picked using simple random sampling method.

The assessment was conducted in 16 randomly selected catchment areas of health facilities in Lusaka. The study

population included girls (9-12years) as potential users of the vaccines, parents or guardians, health workers and teachers involved in the administration of the vaccine and church leaders.

There were 489 individual interviews with the guardians or parents and an additional of about 63 children. There were a total of 403 females and 86 males who were interviewed. The number of females is more because the interviews were conducted during the week and during working hours when most men who are household heads were at work. The number of children was also small because the time of the interviews most of them were at school. Furthermore, there were 2 focus group discussion from 2 randomly selected sites and 2 key informant interviews also from randomly selected site

Table 4: List of Catchment Areas and Number interviewed

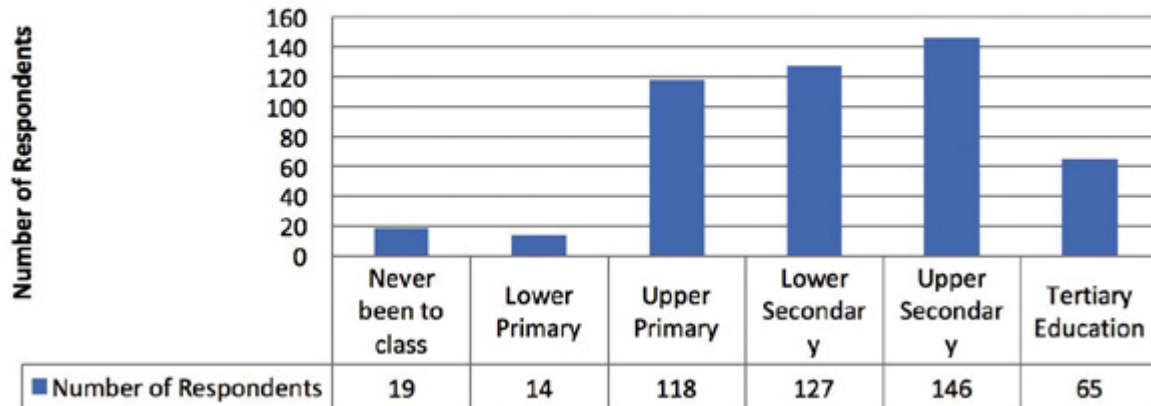
Health Facility Name and Sex of Participant			
Name of Facility	Sex		Total
	Female	Male	
Bauleni			
Bauleni	22	6	28
Chainda	17	3	20
Chawama	28	4	32
Chazanga	12	13	25
Chelstone	22	1	23
Chilenje	28	6	34
Chipata	11	4	15
Civic Centre	26	13	39
Kalingalinga	15	1	16
Kamwala	26	1	27
Kanyama	16	2	18
Kaunda Square	30	6	36
Mandevu	16	1	17
Matero Referral	28	7	35
Mtendere	65	14	79
Ngómbe	41	4	45
Total	403	86	489



The population that was interviewed had education levels varying from those who had never been to class to those that had gone up to tertiary level. A total of 19 respondents had never been to class, 118 had been only up to Upper primary school. A further 127 respondents only went as far as lower

secondary school and another 146 respondents went as far as upper secondary school. Finally only 65 respondents had education as high as tertiary education. Below is a graph number 1 showing the level of education for the respondents.

Graph 2: Level of Education of Respondents



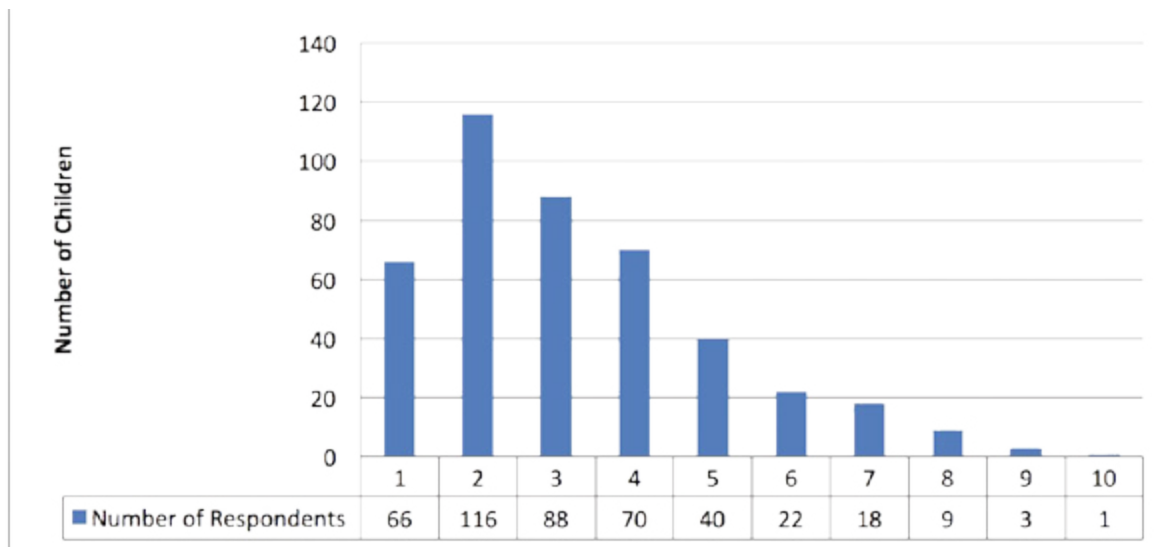
From the total sample that was interviewed there was one child who was the head of the household. About 25% translating into 122 respondents were aged between 25 – 34 years of age and were married. Another 21% were aged 35 – 44 years were married. However, there were approximately 35%

in the age category 25-34 years and about 30% between the ages of 35-44 years. In addition, most of the widowed respondents were above the age 35 years of age, and most single women were below the age of 34 years. Below is Table 6 showing the age categories and their marital status.

Table 6: Marital Status and Age Categories

Age	Marital Status					Total
	Divorced	Married	Separated	Single	Widowed	
Under 18 years	0	0	0	1	0	1
18-24 years	0	33	0	33	0	66
25-34 years	9	122	1	36	4	172
35-44 years	9	106	4	7	19	145
44+_ years	5	61	3	5	31	105
Total	23	322	8	82	54	489

Number of Children per respondent



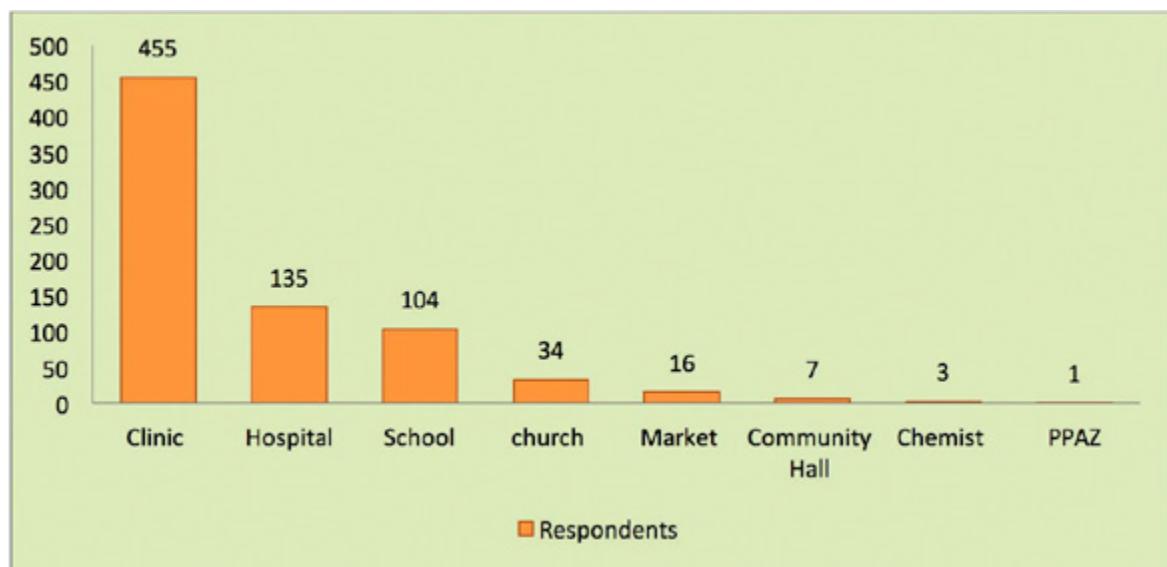
### (b). Immunisation Knowledge

Immunisation knowledge among respondents was not very high. From the sample talked to, about 27.6% representing 135 respondents said they did not know what immunisation or vaccination meant. On the other hand about 72% representing 354 respondents said they understood what the terminologies meant. They understood what the word Vaccination or Immunisation meant and went an extra length to explain what they knew. It was observed that most respondents who said knew what the words meant had

challenges to fully and precisely explain them. This could have been because of the word being a medical term. The terminology is also not easy to translate into Nyanja and other local language for easy understanding.

Despite approximately 27.6% of the respondents indicating not knowing what the terms Vaccination and or Immunisation meant, only 20 individuals did not know any place where vaccinations are conducted. A total of 469 individuals reported to know centres where immunisation or vaccinations were conducted

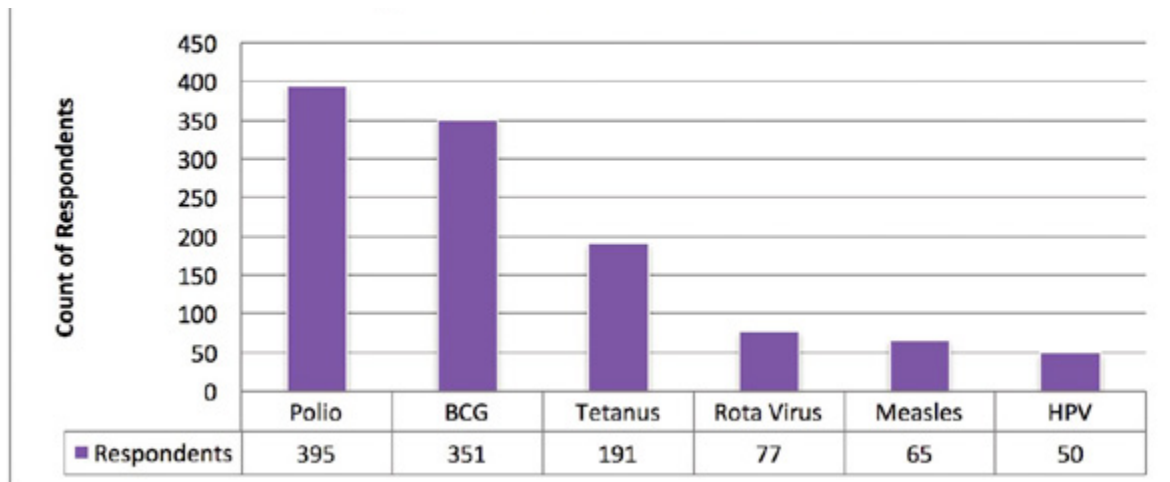
Number of respondents and reported known places for accessing vaccination



A total number of 455 respondents mentioned clinics as vaccination or immunisations centres, 135 mentioned hospitals and a further 104 individuals mentioned schools. It was observed that vaccinations in some of the communities

were conducted from the Markets and Community halls. This was mostly conducted by the health workers during the outreach activities within the various communities

## Types of Vaccines known to the general public



A great number of respondents reported knowing about a number of vaccinations which included Polio, BCG, Tetanus to mention but a few. From the graph 4 Most of the respondents mentioned Polio and BCG representing 395 (81%) and 351 (72%) of respondents respectively. Another 40% about 191 individuals mentioned Tetanus. Only a small proportion of respondents about 10% knew about HPV vaccine despite two HPV vaccination campaigns having been conducted from 2013 when the programme to vaccinate young girls in grade 4 commenced. Other vaccines were mentioned in paltry numbers such as Small Pox, Chorela and Yellow Fever.

The sampled population may not have been able to understand the terms vaccination and Immunisation, however, they demonstrated good knowledge of the places where vaccines are administered and they also know the common vaccines that are given to the children. Furthermore, some respondents even went further to mention other vaccines that are not yet available in Zambia, but available elsewhere or they may be in developmental stages. Vaccines such as Malaria and HIV vaccines. However, the majority of population did not understand what exactly the different vaccines were meant to protect their children against.

During the survey and after analysis of data it has been observed that the decision to have the children vaccinated rests with the parents or guardians. In some instances, girls were willing to be vaccinated but guardians would not give consent either because of lack of full information about the vaccine or because of traditional or religious beliefs. From the total number of 203 guardians who reported to have their children or dependants vaccinated, 166 respondents approximately 81% reported that it's the mothers that decided to have the children vaccinated. A paltry 13% of the respondents reported that it is the fathers that decided to have the children vaccinated. After further probing, it was revealed that the women are the ones who are told about the need to take back the children for various vaccinations after the a child is born. In addition, men did not show interest in taking the children to the clinic or hospital for routine observation or for various vaccinations.

**(c). Source of Vaccination Information**

The individuals sampled for the study depended heavily on the clinic for information on vaccinations. There were 183 individuals who reported to have gotten information on vaccinations from the clinic, 55 respondents said that they got information from the hospital. In addition, 30 respondents reported to have gotten information on vaccination from schools. The schools used different modes of communicating to the parents and guardians. The schools in some cases would send the children home with the word of mouth to inform the guardians about the vaccination. In other cases the school managers reported that they wrote notes for the guardians which the children delivered. Other respondents mentioned radio, church, Television and the market as the source of the vaccination information they had. There was also community outreach and posters that was used to communicate to the masses.

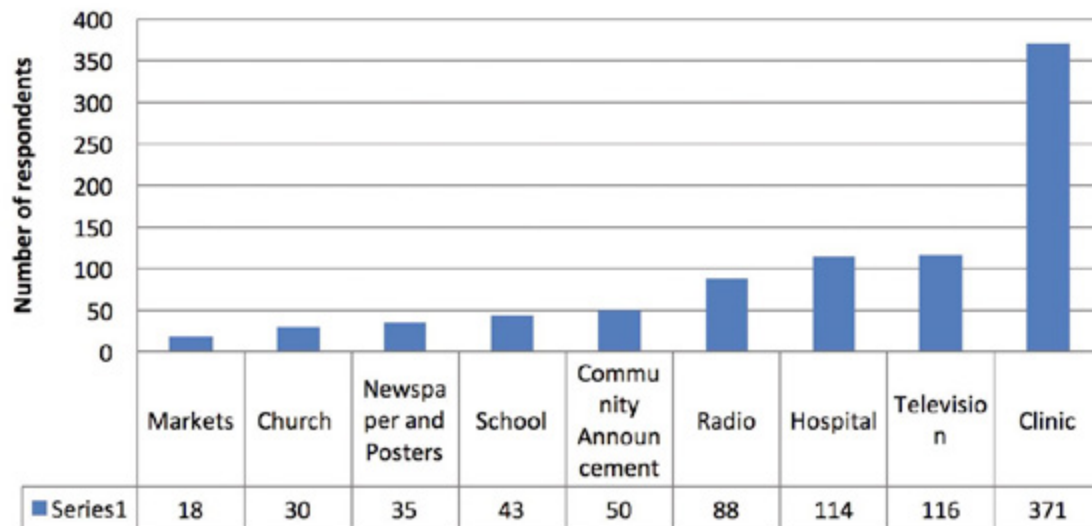
From the total sample of respondents approximately 58% said they would prefer vaccination information is given out by the health workers from their community health facilities. This method was preferred more because it gives them an opportunity to learn more about the vaccines and to ask questions or seek clarifications because of the close interaction with the health personnel. And also since information is coming directly from health personnel, it builds confidence and acceptability. A proportionate of about 26% representing 203 individuals said that they would prefer getting information from Radio and Television as it is not all the time that one would get to the health facility. Like any other health alert message that are aired on radio and television, it was mentioned that it is easy for them to receive information on vaccinations as they are watching Television or listening to the radio during their free time.

In addition, 50 respondents mentioned that they preferred to receive the information on vaccination through community announcement using mega phones. Community announcements using megaphone carters to all community members who may not have the opportunity or time to listen to radio or watch television to get information on vaccinations.

This source of information is heard by all audiences. An additional, 15% of the respondents also indicated that they would love if the messages were given to them using door to door and face to face information sharing in addition to

information leaflets/ handouts to read on their own, translated in different languages. Below is a graph 5 that shows the number of respondents and their preferred source of information on vaccination or immunisation.

Graph 6: Preferred source of Information on Vaccinations



#### (d). Cervical Cancer Knowledge

It was learnt from the survey that 92% of the respondents representing 450 people reported to have heard about cervical cancer. This is encouraging to note that the general population knows about the disease and recognises the efforts various stakeholders have put in to sensitise the community. The reports notes that 95 respondents representing 49 percent agreed to have received adequate knowledge on cervical cancer with only 21 percent representing 40 respondents indicating to have

strongly agreed to have received adequate information. Those disagreeing not to have adequate information were 14 representing 7 percent while 23 percent were neutral. This implies that many people have some information to understand the complex nature of cervical cancer. They have information on how it's contracted, prevented and treated. However, this information is only true for 40 percent of the respondents. For those responding not to have had any sensitisation on cervical cancer were 295 representing 60 percent of the sampled population.

Table 6: Knows about cervical cancer versus, adequate information cervical cancer

Adequacy Information on Cervical Cancer	Knows About Cervical Cancer	
	No	Yes
Strongly Agree	0	40
Agree	0	95
Neutral	0	45
Disagree	0	14

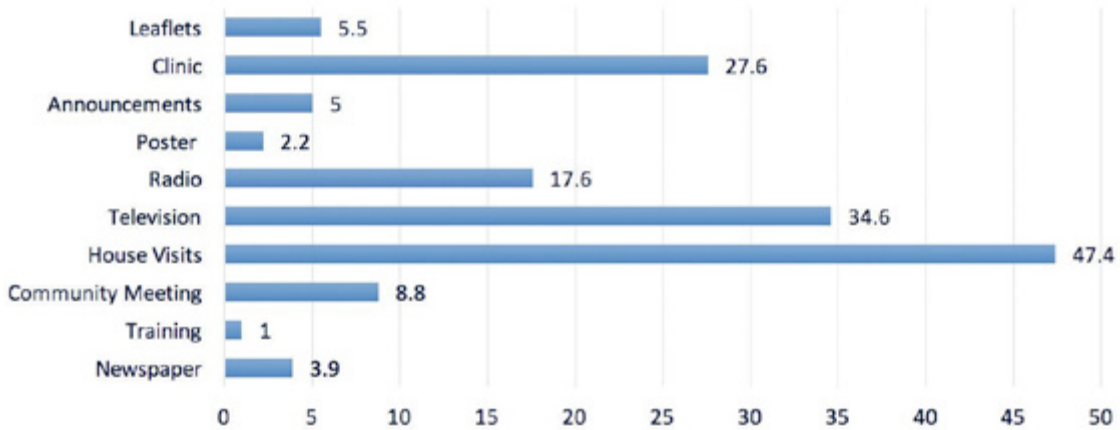
House visits were reported to be major method through which 232 respondents representing 47.4 percent of sampled population indicated to have heard about cervical cancer. The other sources of information were television at 34.6 percent, clinics at 27.6 percent and through the radio at 17.6 percent.

From the above, it can be adduced that many people can be reached through house visits. The study further revealed that community meetings at 8.4 percent reached more people as compared to numbers communicated to those reached through leaflets 5.5 percent and newspapers at 3.9 percent

while posters and training were a paltry 2.2 and 1.0 percent respectively. One of the respondents indicated that he learnt about cervical cancer through his wife. This was the only

response where somebody learnt about cervical cancer through a second person

Graph 7: Sources of Cervical Cancer Information

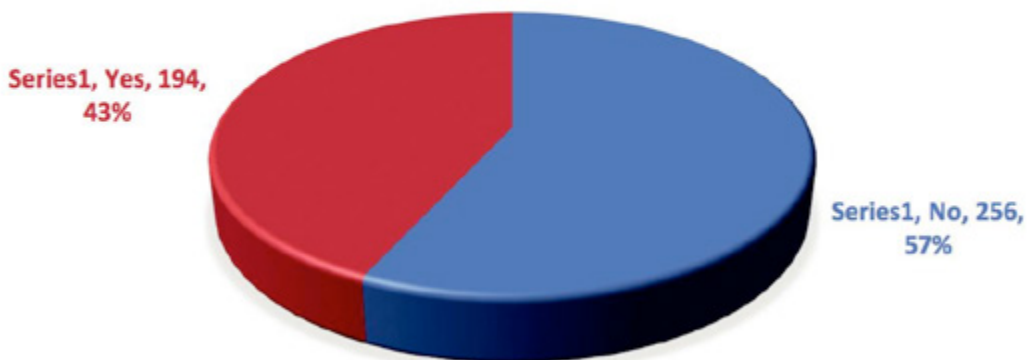


From the respondents who strongly agreed to have adequate information on cervical cancer, 82 percent said that they heard about it through house visits and television. The clinics and radio were at 27.6 and 17.6 percent on those strongly agreeing to have adequate information. Apart from community meeting which stood at 8.8 percent, the rest of the methods were less than or equal to 5 percent.

cervical cancer. All the 194 respondents were above 18 years and the majority were in the age brackets of between 25-34 years and 34-44 years. On those reporting not to have had any sensitisation on cervical cancer, they included one respondent who was below 18 years. The majority were in the age brackets of 25-34 years and 34-44 years. These age groups accounted for 256 people representing 64 percent of the respondents who had no sensitisation on cervical cancer.

Some 194 respondents representing 40 percent of the sampled population confirmed to have been sensitised on

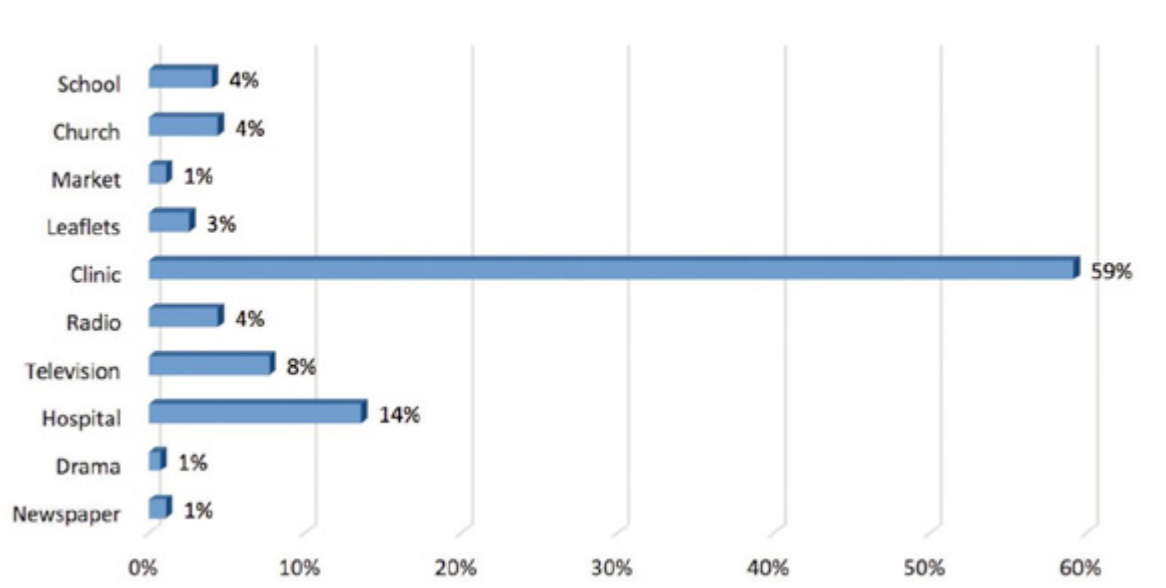
Graph 8: Proportion of respondents sensitized on Cervical Cancer



Those indicating that they had sensitisation on cervical cancer said that it was mainly done at health facilities. The clinics and hospitals accounted for 59 and 14 percent respectively. While television was at 8 percent, the rest of the sources were below 5 percent. From those reporting to know or to have heard

about cervical cancer, about half of them at 53% are aware that cervical cancer can be prevented through vaccination with the HPV vaccine while the other half are not aware of the vaccine.

Graph 9: Places where Cervical Cancer Information is provided



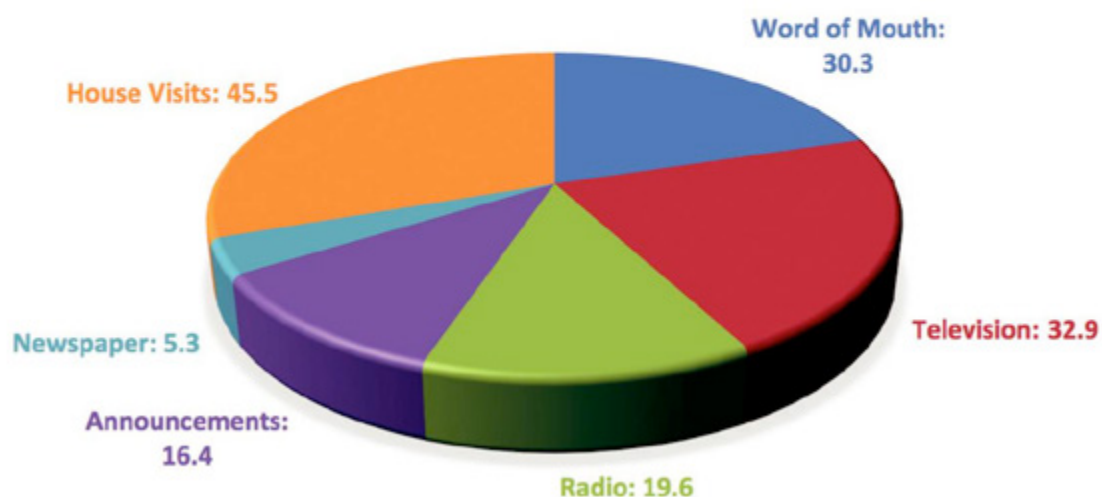
Although a lot of people 92 percent of respondents indicated having heard about cervical cancer, majority of them at 97 percent would still like to have more information on the topic. They would like to know on how they can prevent themselves from having the disease. This implies that despite the efforts that have been put in place such HPV vaccinations, cervical cancer screening, not many people have adequate information on these.

There are beliefs such as only married people can develop cervical cancer. These beliefs were expressed by individuals who declined to receive more information on the subject matter. The belief is that HPV can only be contracted by married people. However, what needs to be appreciated is that anybody who engages in unprotected sex whether married or not can contract HPV.

#### (e) Preferred sources of information on cervical cancer

On the preferred source of information on cervical cancer, majority of the respondents indicated House visits/word of mouth at 45.5 and 30.3 percent respectively. Asked as to why they preferred these sources, the respondents indicated that it gives them an opportunity to ask more questions which may be awkward to ask in public. The other preferred sources of information included television at 32.9, radio at 19.6 percent and public announcements at 16.4 percent. Although the clinics had a percentage of 11, key informant interviews revealed that people only go to the clinic/hospital when they had other ailments or during growth monitoring and health promotion for children under five years.

Graph 10: Knowledge of HPV and Vaccination



Out of the total households sampled 72 percent reported to know what vaccinations or immunisations meant. The general understanding for both terminologies could be summed up as follows. Vaccination is the administration of an antigen material (vaccine) to stimulate an individual's immune system to develop adaptive immunity to a pathogen while immunisation was said to be the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine.

Of those reporting to know what vaccinations meant, 95 % reported to know where vaccinations are conducted from. This implies that although parents do take their children for vaccinations such as Polio, BCG, Tetanus and measles, 28 percent do not fully understand why they do it. Levels of education did not determine whether the respondent knew what vaccination was as there were some people who responded not to know what it meant regardless of their level of education

#### (f) Awareness of HPV vaccination

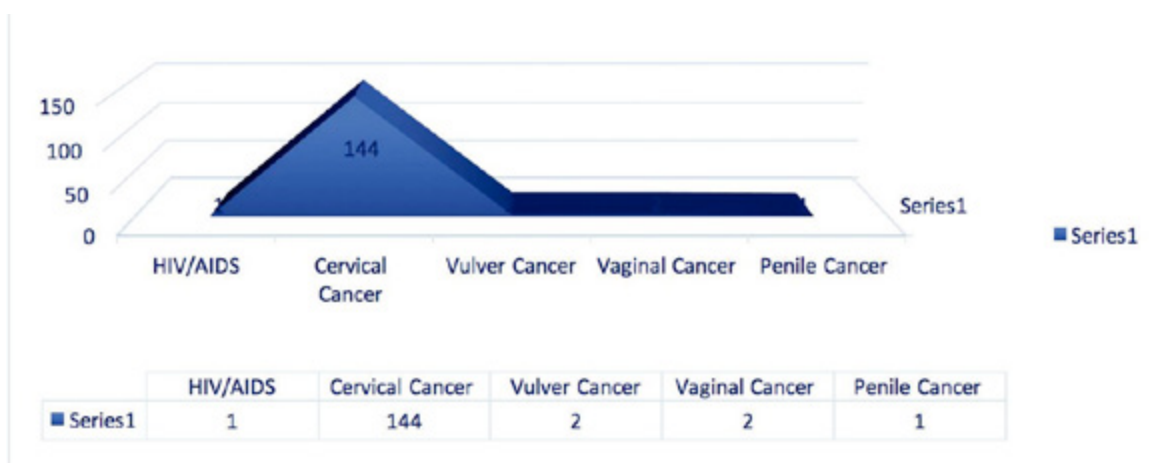
The survey revealed that not many people knew that HPV vaccinations were being offered in Lusaka district. Only 163 respondents representing 33 percent of the sampled population knew about HPV vaccinations campaign in Lusaka. This could explain why vaccine coverage could not reach all the intended recipients for the vaccine. Out of those reporting to know about the HPV vaccinations in Lusaka district, only 29 percent reported to know that the vaccine can help protect against cervical cancer. This indicates that not many people have enough information on the vaccine to help them make an informed decision. As revealed through the key informant interviews, some of those parents refusing to have their girl children vaccinated with the HPV vaccine included

health workers. The parents would advise their children to skip school on days vaccinations were scheduled to take place. The refusal by the parents is evident in the reduction of 5 percentage points between those reporting to have received the first and second doses of the vaccine.

However, from those reporting to know about the HPV vaccinations, only 31 percent representing 150 respondents could articulate on the diseases that one gets protected from when they receive all the vaccinations. Therefore the other 339 respondents or 69 percent are either not aware of the HPV vaccinations or if they know about them, they have no idea on what diseases the vaccine may protect them from. One respondent indicated that the vaccine can protect someone from HIV/AIDS which is not true as the vaccine is not intended for the HIV virus. The failure by the respondents to report on the other diseases/cancers one gets protected from when they get the HPV vaccine may also affect its uptake. A person is more likely to accept a vaccine when they fully know of its benefits. According to the CDC, the HPV vaccine may protect someone from the following cancers, cervical, vulvar, vaginal, penile as well as anal and oropharyngeal cancers in both males and females.

The CDC recommends that all the three doses of the HPV vaccines should be administered during the preteen years over a period of six months. The vaccine has three doses. However only 31 respondents representing 19 percent of those who knew about HPV vaccinations knew the correct number of doses to be three. The minimum period between the first and second dose is four weeks but the second dose can still be administered months after the first dose. However, the report revealed that only 26 percent knew the minimum period between the first and second doses.

Graph 11: Knowledge of HPV and Cervical Cancer



**(g) HPV Vaccination**

Out of the 163 households who reported to know about HPV vaccinations only 63 percent reported to have had their children vaccinated with the HPV vaccine. In the first round only 11.9 percent reported that their children were vaccinated while 6.7 percent were recorded to have received the second dose. This implies that not all children vaccinated in the first round had received a follow up dose in the second round. The children who missed the second dose can still receive it as this can be administered months after the first.

**(h) Sources of HPV information**

As for the sources of information on HPV, 13.2 percent reported to have gotten the information through the door to door sensitizations while 11.6 percent reported to have heard it on television with 6 percent reporting the schools as their source. The report revealed that clinics and televisions were most preferred sources of information on HPV at 43 and 13.5 percent respectively while hospitals were 13 percent and schools stood at 5 percent.

**(i) Places of HPV vaccinations**

The HPV vaccination utilised a school based strategy where girls attending grade four were targeted. However, the report has revealed that although 96 percent of the respondents reported to know where vaccinations are conducted or given from, only one in four people indicated the schools as places.

**(j) Concerns on vaccinations**

Most of the stakeholders starting with the health workers and the general populous have concerns on the safety of the HPV vaccines. In the survey, 16 percent reported that they were unsure on whether the vaccine was safe or not. Some of the people during the key informant interviews indicated that their greatest fear was to administer a vaccine that only goes to accelerate cancer if present in the recipient.

Some of the respondents during the key informant interviews indicated that they don't have sufficient information on the effectiveness of the vaccine. It could be just another trial by the western world or it could actually be something worse that is intended to make the recipients not bare children in future.

There was another concern from some of the key informant respondents who indicated that some parents felt that if their children were to receive the HPV vaccinations, it would be like giving them a free pass for sexual encounters. This was blamed on the failure by the parents to discuss sexuality matters with their children.

**(k). Reasons for not vaccinating their children**

As already alluded to only 33 percent of the respondents indicated knowing about the HPV vaccinations. This implies that 67 percent were not aware the vaccinations were being conducted. Some of the reasons advanced for not knowing included no health workers had visited their children's schools. Others indicated that there wasn't enough information provided apart from saying that it's a government

programme they were implementing. This left most parents with a lot of unanswered questions.

**CONCLUSION**

The Rapid HPV Vaccination and Routine Immunisation Knowledge, Attitudes, Practices and Beliefs (KAPB) baseline survey has revealed that strides have been made in sensitising communities on HPV and vaccines including cervical cancer. HPV awareness campaigns have been carried out in both schools and communities to inform the parents and young girls both in school and out of schools making use of different platforms to communicate the general population. However, much remains to be done in order to have a successful vaccination campaign of the HPV 3rd dose targeting all eligible young girls.

The study has shown that knowledge levels vary across the populations. The majority of population still have not received full information on HPV and cervical cancer. People reported having heard about HPV but not fully understanding what HPV is and what it causes and that cervical cancer can be prevented through vaccinations of young girls. Health facilities have been the major source of information for the general public in many communities. Some health personnel have been oriented but not everyone had the full knowledge to disseminate to the communities.

In addition, resources for social mobilisation, logistics and service delivery have not been adequate in the past to implement successful vaccination exercise which included broad reach awareness campaigns with full information package and appropriate communication channels to raise knowledge levels among young girls and parents/guardians as well as administration of vaccines.

**RECOMMENDATIONS**

In order to carry out a successful HPV 3rd Dose community mobilisation and vaccination exercise, the following is recommended;

- Different audiences highlighted different preferred sources of information on HPV and HPV vaccinations. For this reason, multi-channel approaches to information dissemination will effectively increase awareness of HPV and the vaccine as well as how young girls can be protected against cervical and other cancers associated with HPV. With this approach, different audiences will be targeted with the same message but delivered differently depending on catchment area and population characteristics.
- Health personnel should adequately be oriented/trained on HPV and cervical cancer to enable them adequately answer to the concerns from both the girls and parents and address misconceptions about the vaccinations. With adequate training of health personnel, full information



package on HPV will be provided to both the girls in and out of school, guardians as well as community at large. This will ensure participation of everyone in protecting young girls from cervical cancer.

- There is need to increase number of health personnel dedicated for the campaign. It was observed that only a limited number of personnel from the health centres were oriented and as result much of the work of social mobilisation and administration of vaccines were left to a small number of staff.
  - In addition, there is need to allocate adequate time and resources to inform, sensitise the girls parents and schools on the vaccination process. Key informant interviews with health personnel and teachers revealed that adequate time was not allocated for the social mobilisation. It was reported that a period of one week was given for the health centres for social mobilisation on the vaccination exercise.
  - Vaccinations against HPV should be made routine especially at facility level just like any other vaccine. It should not be restricted to a particular period of time but make it a continuous exercise with good client record management.
  - Vaccination centres should be extended beyond schools and health facilities to include churches and other places of social gathering. This can be achieved with active involvement of community health workers.
- Bruni L, Barrionuevo-Rosas L, Albero G, Aldea M, Serrano B, Valencia S, Brotons M, Mena M, Cosano R, Muñoz J, Bosch FX, de Sanjosé S, Castellsagué X. ICO Information Centre on HPV and Cancer (HPV Information Centre). Human Papillomavirus and Related Diseases in Zambia. Summary Report 2016-02-01.
  - Forman, D., de Martel, C., Lacey, C.J., et al., 2012. Global burden of human papillomavirus and related diseases.
  - Vaccine 30, F12–F23.
  - Francis, S.A., Nelson, J., Liverpool, J., Soogun, S., Mofammere, N., Thorpe, R.J., 2010. Examining attitudes and knowledge about HPV and cervical cancer risk among female clinic attendees in Johannesburg, South Africa. Vaccine 28, 8026–8032
  - GAVI, 2013. Millions of girls in developing countries to be protected against cervical cancer thanks to new HPV vaccine deals—2013—Press releases-News-Library-GAVI Alliance [WWW Document]URL <http://www.gavialliance.org/library/news/pressreleases/2013/hpv-price-announcement/>(accessed 20.04.2016).
  - GAVI, 2013. Millions of girls in developing countries to be protected against cervical cancer thanks to new HPV vaccine deals—2013—Press releases-News-Library-GAVI Alliance [WWW Document]URL <http://www.gavialliance.org/library/news/pressreleases/2013/hpv-price-announcement/> (accessed 8.13.13).
  - <http://www.cdc.gov/std/hpv/STDFact-HPV-vaccine-young-women.htm> (accessed on May 11, 2016).
  - <http://www.cdc.gov/vaccines/who/teens/vaccines/vaccine-safety.pdf>(accessed on May 11, 2016).
  - Melissa S. Cunningham, Colleen Davison,, Kristan J. Aronson, 2014, HPV vaccine acceptability in Africa: A systematic review, Preventive Medicine 69 (2014) 274–279,

## REFERENCE

- Allen, J.D., Coronado, G.D., Williams, R.S., et al., 2010. A systematic review of measures used in studies of human papillomavirus (HPV) vaccine acceptability. Vaccine 28, 4027–4037
- Ayissi, C.A., Wamai, R.G., Oduwo, G.O., et al., 2012. Awareness, acceptability and uptake of human papilloma virus vaccine among Cameroonian school-attending female adolescents. J. Community Health 37, 1127–1135.

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# INVOLVING MEN IN MCH



# MALE PARTNERS' VIEWS OF INVOLVEMENT IN MATERNAL HEALTHCARE SERVICES AT MAKHADO MUNICIPALITY CLINICS, LIMPOPO PROVINCE, SOUTH AFRICA

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## ABSTRACT

### Background

Male partners have a strong influence on pregnant partners' health and their access to care. Their involvement is critical in the delivery and uptake of maternal healthcare services and improving maternal and child health outcomes.

### Aim

The study sought to determine male partners' views on their involvement in maternal healthcare services.

### Setting

The Makhado Municipality's Kutama, Madombidzha and Vleifontein clinics.

### Methods

A qualitative study design, which is exploratory, descriptive and contextual in nature, was used. The population comprised 15 men whose partners had been pregnant within the last 2 years. A non-probability, purposive sampling procedure was used. Data were collected via in-depth individual interviews using a voice recorder and an interview schedule guide. Tesch's open coding method was used to analyse data.

### Results

The findings revealed one major theme, namely that maternal health issues are viewed as a woman's domain; and three sub-themes: culture and participation in childbirth, male partners' employment status, and male partners' unwillingness to participate in maternal health issues.

### Conclusions

The involvement of male partners in maternal healthcare services, and further research in promoting this activity, should be proposed to policymakers.

## INTRODUCTION

A maternal healthcare service comprises a wide range of health services provided to mothers before pregnancy, during pregnancy, during labour, and after giving birth. These health services include: preconception care, antenatal care (ANC), prevention of mother-to-child transmission (PMTCT) of HIV, safe delivery (intrapartum care), postnatal care (PNC), and emergency obstetric care/management of obstetric complications. However, for the purposes of the present

study, maternal health services refers to ANC, delivery and PNC.

Most maternal and child health (MCH) programmes seek to address the health needs of women and children by engaging and educating pregnant women and mothers in appropriate care-seeking and care-giving practices for themselves and their children.<sup>1</sup> The present study focuses on women, and their tendency to think about pregnancy, childbirth and child health as 'women's business'. This has often led to men being excluded from areas and services where they could learn more about reproductive, MCH matters.<sup>1</sup> Kinanee<sup>2</sup> concurs with this assertion, in indicating that maternal health issues have traditionally been predominantly seen and treated as a purely feminine matter. In the Vhembe District, Limpopo Province, pregnancy and childbirth has been a woman's domain, and maternal healthcare services have focused on women, with very little male involvement.

Men tend to be decision-makers within families and often govern behaviour regarding the use of contraceptives, the availability of nutritious food, women's workload, and the allocation of money, transport and time for women to attend health services. In addition, men's behaviour influences the reproductive health of both men and women and the health of their children. Yet men are often unable to make informed choices because they have not been included in reproductive, MCH services and education.<sup>3</sup> The failure to incorporate men in maternal health promotion, prevention and care programmes by policy makers, programme planners and implementers of maternal health services has had a serious impact on the health of women and the success of these programmes.<sup>4</sup> Yet most African women are still unaware of their fundamental rights to health, and they continue to suffer from socioeconomic discrimination and unwanted pregnancies, which are harmful to their health.<sup>5</sup> Women tend to have less education and fewer job opportunities than men have, which influences their maternal health-seeking behaviour and maternal health outcomes. Greater male involvement in maternal health programmes may help to reduce unintended, unwanted pregnancies and the transmission of sexually transmitted infections as well as improve child survival.<sup>6,7</sup>

### Objectives

The objectives of the study were to explore and describe the views of male partners on their involvement in maternal healthcare services provided at clinics of the Makhado Municipality, Limpopo Province.

## RESEARCH METHODS AND DESIGN

### Study design

An exploratory descriptive design was used which helped the researcher to understand the phenomenon studied from the participants' viewpoint in the context where the activities took place.<sup>8</sup> A descriptive design facilitated data gathering pertaining to the views of male partners on their involvement in maternal healthcare services.<sup>9</sup>

### Study population and sampling strategy

The study population included all men who had had pregnant partners in the past 2 years who had attended the Kutama, Madombidzha and Vleifontein clinics of Makhado Municipality in Limpopo Province. The study setting was purposively selected. A purposive sampling technique was used to select five participants from each clinic on the basis that they possessed the characteristics of interest to the researcher.<sup>9</sup>

### Data collection

Data collection was done by the researcher at participants' homes. The unstructured individual interviews were conducted to collect data from the 15 participants until saturation was reached. The following main question was asked: 'Can you kindly describe your views related to the involvement that needs to occur for male partners during maternal health care services.' Other probing questions followed after the participants' responses to the central question. Field notes were taken to capture aspects such as facial expressions that could not be recorded by the voice recorder.<sup>9,10</sup>

### Data analysis

Tesch's open coding method was used to analyse data. Data analysis involved reading and re-reading verbatim transcriptions of all interviews sessions to acquire a sense of the whole. All topics were listed, and themes and sub-themes were classified and codes allocated to them, and field notes were also coded.

### Trustworthiness

To ensure trustworthiness in the study, the criteria of credibility and transferability<sup>10</sup> were adhered to. Credibility was ensured by triangulation of data collection methods whereby a voice recorder was used to capture all interview sessions, and field notes were written to supplement what was not captured by the recorder. Prolonged engagement in the study field, where the researcher stayed for 3 months whilst accompanying male partners, also provided a credible data source. Transferability was ensured by thick descriptions of the research methodology, and data collection and purposive sampling which were used to include participants' views.

## ETHICAL CONSIDERATIONS

Permission to collect data was granted by the nurse managers in charge of the healthcare facilities where the research was conducted. Ethical approval was obtained from the University of Venda's research ethics committee (SHS/14/PDC/08/1411). Informed consent forms were signed by all participants before commencement of interview sessions to confirm voluntary participation. The purpose of the study was outlined to all participants at the beginning of each interview session. Anonymity and confidentiality were ensured throughout the study.

**Table 1**

Male Partner	Age (years)	Education	Ethnic group	Employment status	Marital status
1	33	Computer certificate	Venda	Employed	Married
2	27	Grade 12	Venda	Employed	Single
3	37	Grade 11	Venda	Unemployed	Married
4	30	Agriculture diploma	Venda	Unemployed	Married
5	34	Teachers's diploma	Venda	Employed	Single
6	36	Grade 12	Venda	Unemployed	Single
7	26	Grade 12	Venda	Unemployed	Single
8	29	Grade 12	Venda	Unemployed	Single
9	28	Grade 11	Venda	Unemployed	Single
10	35	Computer certificate	Venda	Unemployed	Married
11	26	Grade 12	Venda	Unemployed	Single
12	27	Grade 10	Venda	Unemployed	Single
13	30	Grade 12	Venda	Employed	Married
14	32	Grade 9	Venda	Unemployed	Single
15	36	Grade 11	Venda	Unemployed	Married

**Table 2. Main and Sub-themes**

Theme	Sub-themes
Maternal health issues are viewed as women's matters	Culture and participation in childbirth
	Male partner employment status
	Unwillingness to participate in maternal health issues

## DISCUSSION

The findings below include a summary of the events and interviews, with discussion and quoted statements that are supported by the literature as views of male partners in involvement in maternal healthcare services.

### Theme: Maternal health issues viewed as women's matters

The results revealed that lack of knowledge about maternal health issues led to non-participation and fear of the unknown by male partners. This finding is supported by Jooste<sup>12</sup> who stated that, in general, men do not accompany their female partners when they attend these clinics, nor do they participate fully in the antenatal and PNC of their partners. In the present study, male partners would sit in their car, waiting for their women for more than an hour, complaining because they did not know the services which are rendered at the clinic and the expectations from them. This observation was supported by one participant when saying:

*'When my wife was pregnant, there is not much expected of me to do because those things are for women. I only help with transport, and I know that I must do some minor things at home which I think might be hard for her since she is pregnant.'*

Women have to generally wait for a long time before receiving ANC services because of burdensome administrative procedures that result in poor patient/client care in health facilities. Men, who frequently are in a paid workforce, are usually not in a position to spend virtually the entire day participating in ANC services.<sup>13</sup> Husbands' interest levels and their attempts to support pregnancy health were relatively high, whilst low knowledge levels appeared to pose a significant obstacle to positive involvement. In general, all the participants' knowledge surrounding pregnancy was limited, particularly in relation to complications or danger signs during pregnancy. Knowledge levels did not differ amongst male partners according to their presence or not at ANC.<sup>13</sup> Sub-themes that emerged were: culture and participation in childbirth; male partners' employment status; and unwillingness to participate in maternal health issues.

### Sub-theme 1.1: Cultural guidance in childbirth participation

Participants indicated that their culture, Tshivenda, does not allow them to participate in maternal healthcare services. This was expressed by one participant as follows:

*'My honourable one, what do I want inside because nurses learnt about their work. Our Tshivenda culture does not allow that, a male in the delivery room? [exclamation] Where a woman is giving birth ... [shaking the head] ... No no.'* (Participant 3)

Culture is perceived as a factor that affects male partners' involvement in maternal healthcare services. All male partners who participated in the study were of the Tshivenda ethnic group. Contextual factors, such as paternal age, ethnicity, education, and family decision-making patterns, have been shown to influence male involvement in maternal health.<sup>14,15,16,17</sup>

Another participant said:

*'The elders are the ones who take care of the child, and they are very strict when it comes to the child. I am not allowed to carry my child before they do the rituals, and I am not allowed to get into the room where my wife and child are in.'* (Participant 2)

In many cases, it has been observed that men reject participation in female-oriented health services, encountering cultural as well as structural barriers such as a unit that accommodates more than one woman. Literature in this regard shows that service providers sometimes play a crucial role in barriers to men's participation in ANC services.<sup>18,19</sup>

### Sub-theme 1.2: Male partners' employment status a determination for non-involvement

Participants cited long distances from workplace to home as a factor that contributed to their non-participation in maternal healthcare services. For male partner involvement to take place, short distances are necessary and, if labour occurs spontaneously, partners may not be available. Most participants worked far from their homes, thus hindering their involvement in maternal healthcare services.

This finding was supported by the following quote:

*'About ANC, she goes there alone. I accompany her only when I am present but most of the time she goes there alone, and she will meet others on her way to the clinic. How do I involve myself with her antenatal care? It is because there is nothing I shall be doing there. Most of the times I was at work and the clinics are always over crowded by women and I don't like it.'* (Participant 4)

Women wait for a long time before receiving ANC services because of burdensome administrative procedures which result in poor patient/client care in health facilities. Byamugisha<sup>20</sup> indicated that men, who frequently are in the paid workforce, are often not in a position to spend virtually the entire day participating in ANC services. Traditionally, maternal health issues have predominantly been seen and treated as a purely feminine matter; this is because women fall pregnant and give birth. Although men's participation in MCH services is low, they play a vital role in the safety of their female partners' pregnancy and childbirth<sup>21</sup>

*'We as men do not have knowledge of how important it is to enter with her in the consultation room or labour unit when she is about to give birth. The other thing is that we as men believe in different things; other people's belief do not allow them to enter in the labour ward. That is why it is difficult to find men involving themselves. I work far from home.'* (Participant 3)

Dan et al.<sup>22</sup> described the ideal father as one who was available, easily reached, accessible and considerate. Most men were willing to learn about their expected roles during childbirth and were eager to support their partners during this time. They found the health system unwelcoming, intimidating and unsupportive. Suggestions to improve men's involvement included creating more awareness for fathers, male-targeted antenatal education and support, and changing provider attitudes.<sup>22</sup> Kinanee<sup>2</sup> mentioned that other barriers to the husband's involvement included embarrassment in learning about pregnancy health, work obligations, hospital restrictions on the husband's entrance into most areas of the hospital, and communication barriers between husbands and wives. However, there are different views with regard to what other European countries do. In Spain, paternity leave is 2 weeks, non-transferable, and 100% paid, which is used by more than 80% of parents.<sup>23</sup> The rights of both parents have not yet been equalised in suitable conditions for maximising the chances of male responsibility, because paternal leave still differs widely from maternity leave, which is currently 16 weeks paid at full salary.<sup>24</sup>

### **Sub-theme 1.3: Portrait excuses for unwillingness to participate in maternal health issues**

In the present study, some participants raised the point that they were not willing to participate in maternal healthcare services because they viewed childbirth as 'women issues'. To some male partners, maternal health was indeed seen as a women's issue and that they did not have to take part.

This view was supported by the following statement:

*'No! Nurses do not refuse a person to get in, but I feel it myself that that place is not a place to play, it is for women, there is nothing I can do there [laugh].'* (Participant 1)

An important exception in Africa was a study conducted in Nigeria, where limited birth preparedness and participation by men in a patriarchal society was reported, and a study in Uganda in which spousal influence was identified to be amongst the main factors affecting the choice of delivery place.<sup>15</sup> Gabrysh<sup>25</sup> found that women's use of maternal health services was associated with higher education of the husband, probably owing to educated men's positive attitudes toward modern healthcare, wider knowledge of the benefits of skilled attendance at birth, and perhaps less restriction on wives' movements. This finding was supported by the following excerpt:

*'Normally when I get to the hospital I participate but reluctant to get inside the consultation or maternity unit because there were other women who were in labour and I can't get inside because some would be naked.'* (Participant 6)

Chattopadhyay<sup>26</sup> indicated that men were not always encouraged to be involved during pregnancy and childbirth in the South-Asian context. For example, men in Nepal are typically discouraged from involvement with pregnancy and childbirth. Literature in this regard shows that service providers sometimes play a crucial role in creating barriers for men to participate in ANC services.<sup>18</sup> However, in the South African context; male partners are encouraged to be involved in maternal health issues.<sup>27</sup>

## **RECOMMENDATIONS**

The following strategies were recommended to facilitate promoting the involvement of male partners and to address factors that contribute to non-participation of male partners in maternal health care services in Makhado Municipality.

Primary healthcare nurses, in their role of facilitating male partner involvement, need to motivate the male partner by ensuring that he realises the importance of active involvement in maternal health services. For example, attending maternal health facilities with their partners, and assisting partners to understand their problems and needs in totality, will lead to greater understanding of their families and the community in general. The clinics at Makhado Municipality should identify innovative ways of implementing the policy of male involvement in pregnancy and childbirth in order to effectively engage men who are keen to be involved in the healthcare of their partners. These might involve health education of men who escort their partners to antenatal clinics, and on expected roles during pregnancy and childbirth.

The related clinic should train healthcare providers in customer care, and have waiting rooms where men are welcome, provided with information on their spouses, given education on health needs and specific roles in pregnancy and childbirth, and highlighting the importance of these roles in positive pregnancy outcomes. Further needs are to assist the facilities to establish community outreach, clinic-based education and couple-oriented counselling interventions. Such steps would improve male involvement, as would the distribution of information, education and communication materials on relevant maternal health issues. Informal peer information-sharing would also encourage the male initiative. Men could be invited to participate in maternal healthcare and to then inform their peers about their experiences and encourage them to participate.

Cultural factors were identified as barriers to male involvement. Studies have reported negative perceptions toward men attending ANC services. The influence of local cultural lore showed that effective health interventions should take into account traditional beliefs and customs in order to achieve health goals. Midwives should provide culturally congruent care, and they should be able to care for, and communicate with, patients who belong to different cultures during maternal healthcare. Community health workers (CHWs) should be encouraged to conduct community outreach in villages to disseminate messages about male involvement, and to collaborate with community leaders on how to approach the men.

## CONCLUSION

Inadequate knowledge, cultural factors and lack of appropriate services were found to have negatively influenced male participation and involvement in maternal healthcare services.<sup>28</sup> Findings of the present study are that men still view maternal health as women's issues. Although men are not direct beneficiaries of safe motherhood services, their understanding, participation, involvement and support is crucial in order for women to access basic reproductive health services.

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## REFERENCES

1. Davis J, Luchters S, Holmes W. Men and maternal and new born health: Benefits, harms, challenges and potential strategies for engaging men. c2012 [cited 2015 April 20]. Available from: <http://www.men-care.org>
2. Kinanee JB, Ezekiel-Hart J. Men as partners in maternal health: Implications for reproductive health counseling in Rivers State, Nigeria. *J Psychol Counsel*. 2011;1:39–44.
3. Danforth EJ, Krunk ME, Rockers PC, Mbaruku G, Galea S. Household decision-making about delivery in health facilities: Evidence from Tanzania. *J Health Popul Nutr*. 2009;27:696. [PMC free article] [PubMed]
4. Aregay A, Alemayehu M, Assefa H, Terefe W. Factors associated with maternal health services in Enderta District, Tigray, Northern Ethiopia: A cross-sectional study. *Am J Nurs Sci*. 2014;3:117–125. <http://dx.doi.org/10.11648/j.ajns.20140306.15>
5. Kulunya LI, Sundby E, Chirwa A, Malura A. Barriers to husbands' involvement in maternal health care in a rural setting in Malawi: A qualitative study. *J Res Nurs Midwifery*. 2012;1:1–10.
6. Kunene B, Beksinska M, Zondi S, et al. Involving men in maternity care: South Africa. Washington, DC: United States Agency for International Development (USAID); 2004.
7. Aarnio P, Olsson P, Chimbi A, Kulmala T. Male involvement in antenatal HIV counselling and testing: Exploring men's perceptions in rural Malawi. *AIDS Care*. 2009;21:1537–1546. <http://dx.doi.org/10.1080/09540120902903719> [PubMed]
8. Brink H. Fundamentals of research methodology for health care professionals. Cape Town: Juta; 2012.
9. De Vos A, Strydom H, Fouche C, Delport C. Research at grassroots for the social sciences and human professions. 3rd ed. Pretoria: JL Van Schaik; 2011.
10. Babbie E, Mouton J. The practice of social research. Cape Town: Oxford University Press; 2011.
11. Creswell JW. Research design: Qualitative and quantitative and mixed methods approaches. 4th ed. Thousand Oaks, CA: Sage Publications; 2011.
12. Jooste K, Amukungo HJ. Male involvement in reproductive health: A management perspective. *J Nurs Manag*. 2013;21:327–338. <http://dx.doi.org/10.1111/j.1365-2834.2012.01332.x> [PubMed]
13. Ditekemena J, Matendo R, Koole O, et al. Male partner voluntary counselling and testing associated with the antenatal services in Kinshasa, Democratic Republic of Congo: A randomized controlled trial. *Int J STD AIDS*. 2011;22:165–170. <http://dx.doi.org/10.1258/ijsa.2010.010379> [PubMed]
14. Amooti-Kaguna B, Nuwaha F. Factors influencing choice of delivery sites in Rakai district of Uganda. *Soc Sci Med*. 2000;50:203–213. [http://dx.doi.org/10.1016/S0277-9536\(99\)00275-0](http://dx.doi.org/10.1016/S0277-9536(99)00275-0) [PubMed]

15. Iliyasu L, Abubakar S, Galadanci HS, Aliyu MH. Birth preparedness, complication readiness and father participation in maternity care in a Northern Nigerian community. *Afr J Reprod Health*. 2010;14:21–32. [PubMed]
16. Mpembeni RNM, Killewo JZ, Leshabari MT, et al. Use of pattern of maternal health services and determinants of skilled care during delivery in Southern Tanzania: Implications for achievement of MDG-5 targets. *BMC Pregnancy Child birth*. 2007;7:29 <http://dx.doi.org/10.1186/1471-2393-7-29> [PMC free article] [PubMed]
17. Mullany BS. Barriers to and attitudes towards promoting husbands' involvement in maternal health in Katmandu, Nepal. *Soc Sci Med*. 2006;62:2798–2809. <http://dx.doi.org/10.1016/j.socscimed.2005.11.013> [PubMed]
18. Theuring S, Mbezi P, Luvanda H, Jordan-Harder B, Kunz A, Harm G. Male involvement in PMTCT services in Mbenya region, Tanzania. *AIDS Behav*. 2009;13:92–102. <http://dx.doi.org/10.1007/s10461-009-9543-0> [PubMed]
19. Msellati P. Improving mothers' access to PMTCT programs in West Africa: A public health perspective. *Soc Sci Med*. 2009;69:807–812. <http://dx.doi.org/10.1016/j.socscimed.2009.05.034> [PubMed]
20. Byamugisha R, Tumwine JK, Semiyaga N, Tylleskär T. Determinants of male involvement in the prevention of mother-to-child transmission of HIV programme in Eastern Uganda: A cross-sectional survey. *Reprod Health*. 2010;7:12 <http://dx.doi.org/10.1186/1742-4755-7-12> [PMC free article] [PubMed]
21. Kululanga L, Sundby J, Malata A, Chirwa E. Striving to promote male involvement in maternal health care in rural and urban setting in Malawi – A qualitative study. *Reprod Health*. 2011;2:36 <http://dx.doi.org/10.1186/1742-4755-8-36> [PMC free article] [PubMed]
22. Dan KK, Kakare O, Nakimuli A, Osinde MO, Scovia NM, Kakande N. Male involvement during pregnancy and childbirth: Men's perceptions, practices and experiences during care for women who developed childbirth complications in Mulago Hospital, Uganda. *BMC Pregnancy Child birth*. 2014;14:54 <http://dx.doi.org/10.1186/1471-2393-14-54> [PMC free article] [PubMed]
23. Castro C, Pazos M. Men, care and equality. Platform by equal and non-transferable permissions of birth and adoption (PPIINA). c2011 [cited 2015 May 20]. Available from: <http://www.onlinelibrary.wiley.com>
24. Gracia P. Fathers' child care involvement and children's age in Spain: A time use study on differences by education and mothers' employment. *Eur Sociol Rev*. 2014;30:137–150. <http://dx.doi.org/10.1093/esr/jcu037>
25. Gabrysch S, Cousens J, Cox O, Campbell MR. The influence of distance and level of care on delivery place in rural Zambia: A study of linked national data in a geographic information system. *PLoS Med*. 2011;8(1):e1000394. <http://dx.doi.org/10.1371/journal.pmed.1000394> [PMC free article] [PubMed]
26. Chattopadhyay A. Men in maternal care: Evidence from India. *J Biosoc Sci*. 2012;44:129–153. <http://dx.doi.org/10.1017/S0021932011000502> [PubMed]
27. Nantamu DP. Factors associated with male involvement in maternal health care services in Jinja district, Uganda [unpublished thesis] Master of Public Health, Makerere University;2011.
28. Kura S, Vince J, Crouch-Chivers P. Male involvement in sexual and reproductive health in the Mendi district, Southern Highlands province of Papua New Guinea: A descriptive study. *Reprod Health*. 2013;10:46 \_



